CRPL-F71

IONOSPHERIC DATA

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U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
CENTRAL RADIO PROPAGATION LABORATORY
WASHINGTON, D. C.

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CONTENTS

SYMBOLS, TERMINOLOGY, CONVENTIONS

Beginning with data reported for January 1949, the symbols, terminology, and conventions for the determination of median values used in this report (CRPL-F series) conform as far as practicable to those adopted at the Fifth Meeting of the International Radio Consultative Committee (C.C.I.R.) in Stockholm, 1948, and given in detail on pages 2 to 10 of the report CRPL-F53, "Ionospheric Data," issued January 1949.

For symbols and terminology used with data prior to January 1949, see report IRPL-C61, "Report of International Radio Propagation Conference, Washington, 17 April to 5 May, 1944," previous issues of the F series, in particular, IRPL-F5, CRPL-F24, F33, F50, and report CRPL-7-1, "Preliminary Instructions for Obtaining and Reducing Manual Ionospheric Records."

Following the recommendations of the Washington (1944) and Stockholm (1948) conferences, beginning with data for January 1945, median values are published wherever possible. Where averages are reported, they are, at any hour, the average for all the days during the month for which numerical data exist.

In addition to the conventions for the determination of medians given in Appendix 5 of Document No. 293 E of the Stockholm conference, which are listed on pages 9 and 10 of CRPL-F53, the following conventions are used in determining the medians for hours when no measured values are given because of equipment limitations and ionospheric irregularities. Symbols used are those given on pages 2-9 of CRPL-F53 (Appendixes 1-4 of Document No. 293 E referred to above).

a. For all ionospheric characteristics:

Values missing because of A, B, C, F, L, M, N, Q, R, S, or T (see terminology referred to above) are omitted from the median count.

b. For critical frequencies and virtual heights:

Values of foF2 (and foE near sunrise and sunset) missing because of E are counted as equal to or less than the lower limit of the recorder. Values of h'F2 (and h'E near sunrise and sunset) missing for this reason are counted as equal to or greater than the median. Other characteristics missing because of E are omitted from the median count. See CRPL-F38, page 9.

Values missing because of D are counted as equal to or greater than the upper limit of the recorder.

Values missing because of G are counted:
1. For foF2, as equal to or less than foF1.
2. For h'F2, as equal to or greater than the median.

Values missing because of W are counted:
1. For foF2, as equal to or less than the median when it is apparent that h'F2 is unusually high; otherwise, values missing because of W are omitted from the median count.
2. For h'F2, as equal to or greater than the median.

Values missing for any other reason are omitted from the median count.

c. For MUF factor (M-factors):

Values missing because of G or W are counted as equal to or less than the median.

Values missing for any other reason are omitted from the median count.

d. For sporadic E (Es):

Values of fEs missing because of G (no Es reflections observed, the equipment functioning normally otherwise) are counted as equal to or less than the median foE, or equal to or less than the lower frequency count of the recorder.

Values of fEs missing for any other reason, and values of h'Es missing for any reason at all are omitted from the median count.

Beginning with data for November 1945, doubtful monthly median values for ionospheric observations at Washington, D. C., are indicated by parentheses, in accordance with the practice already in use for doubtful hourly values. The following are the conventions used to determine whether or not a median value is doubtful:

1. If only four values or less are available, the data are considered insufficient and no median value is computed.

2. For the F2 layer, if only five to nine values are available, the median is considered doubtful. The E and F1 layers are so regular in their characteristics that, as long as there are at least five values, the median is not considered doubtful.

3. For all layers, if more than half of the values used to compute the median are doubtful (either doubtful or interpolated), the median is considered doubtful.

The same conventions are used by the CRPL in computing the medians from tabulations of daily and hourly data for stations other than Washington, beginning with the tables in IRPL-F18.

The tables and graphs of ionospheric data are correct for the values reported to the CRPL, but, because of variations in practice in the interpretation of records and scaling and manner of reporting of values, may at times give an erroneous conception of typical ionospheric characteristics at the station. Some of the errors are due to:

a. Differences in scaling records when spread echoes are present.

b. Omission of values when foF2 is less than or equal to foF1, leading to erroneously high values of monthly averages or median values.

c. Omission of values when critical frequencies are less than the lower frequency limit of the recorder, also leading to erroneously high values of monthly average or median values.

These effects were discussed on pages 6 and 7 of the previous F-series report IRPL-F5.

Ordinarily, a blank space in the fEs column of a table is the result of the fact that a majority of the readings for the month are below the lower limit of the recorder or less than the corresponding values of foE. Blank spaces at the beginning and end of columns of h'F1, foF1, h'E, and foE are usually the result of diurnal variation in these characteristics. Complete absence of medians of h'F1 and foF1 is usually the result of seasonal effects.

The dashed-line prediction curves of the graphs of ionospheric data are obtained from the predicted zero-muf contour charts of the CRPL-D series publications. The following points are worthy of note:

a. Predictions for individual stations used to construct the charts may be more accurate than the values read from the charts since some smoothing of the contours is necessary to allow for the longitude effect within a zone. Thus, inasmuch as the predicted contours are for the center of each zone, part of the discrepancy between the predicted and observed values as given in the F series may be caused by the fact that the station is not centrally located within the zone.

b. The final presentation of the predictions is dependent upon the latest available ionospheric and radio propagation data, as well as upon predicted sunspot number.

c. There is no indication on the graphs of the relative reliability of the data; it is necessary to consult the tables for such information.

The following predicted smoothed 12-month running-average Zürich sunspot numbers were used in constructing the contour charts:

Month	Predicted Sunspot Number					
	1950	1949	1948	1947	1946	1945
December		108	114	126	85	38
November		112	115	124	83	36
October		114	116	119	81	23
September		115	117	121	79	22
August		111	123	122	77	20
July		108	125	116	73	
June	103	108	129	112	67	
May	102	108	130	109	67	
April	101	109	133	107	62	
March	103	111	133	105	51	
February	103	113	133	90	46	
January	105	112	130	88	42	

WORLD - WIDE SOURCES OF IONOSPHERIC DATA

The ionospheric data given here in tables 1 to 50 and figures 1 to 100 were assembled by the Central Radio Propagation Laboratory for analysis and correlation, incidental to CRPL prediction of radio propagation conditions. The data are median values unless otherwise indicated. The following are the sources of the data in this issue:

Commonwealth of Australia, Ionospheric Prediction Service of the Commonwealth Observatory:
- Brisbane, Australia
- Canberra, Australia
- Hobart, Tasmania

Australian Department of Supply and Shipping, Bureau of Mineral Resources, Geology and Geophysics:
- Watheroo, West Australia

Institute for Ionospheric Research, Lindau Uber Northeim, Hannover, Germany:
    Lindau/Harz, Germany

Indian Council of Scientific and Industrial Research, Radio Research Committee:
    Calcutta, India

Radio Regulatory Agency, Tokyo, Japan:
    Akita, Japan
    Tokyo, Japan
    Wakkanai, Japan
    Yamagawa, Japan

New Zealand Department of Scientific and Industrial Research:
    Christchurch, New Zealand
    Rarotonga I.

Norwegian Defense Research Establishment, Kjeller per Lillestrom, Norway:
    Oslo, Norway

South African Council for Scientific and Industrial Research:
    Capetown, Union of S. Africa
    Johannesburg, Union of S. Africa

Research Laboratory of Electronics, Chalmers University of Technology, Gothenburg, Sweden:
    Kiruna, Sweden

National Bureau of Standards (Central Radio Propagation Laboratory):
    Baton Rouge, Louisiana (Louisiana State University)
    Boston, Massachusetts (Harvard University)
    Huancayo, Peru (Instituto Geofisico de Huancayo)
    Maui, Hawaii
    San Francisco, California (Stanford University)
    San Juan, Puerto Rico (University of Puerto Rico)
    Trinidad, British West Indies
    Washington, D. C.
    White Sands, New Mexico

HOURLY IONOSPHERIC DATA AT WASHINGTON, D. C.

The data given in tables 51 to 62 follow the scaling practices given in the report IRPL-C61, "Report of International Radio Propagation Conference," pages 36 to 39, and the median values are determined

by the conventions given above under "Symbols, Terminology, Conventions." Beginning with September 1949, the data are taken at a new location, Ft. Belvoir, Virginia.

IONOSPHERIC STORMINESS AT WASHINGTON, D.C.

Table 63 presents ionosphere character figures for Washington, D. C., during June 1950, as determined by the criteria given in the report IRPL-R5, "Criteria for Ionospheric Storminess," together with Cheltenham, Maryland, geomagnetic K-figures, which are usually covariant with them.

SUDDEN IONOSPHERE DISTURBANCES

Tables 64 through 68 list the sudden ionosphere disturbances observed at Ft. Belvoir, Virginia, June 1950; Brentwood and Somerton, England, May and June 1950; Platanos, Argentina, May 1950; Barbados, British West Indies, May 1950; and Lindau/Harz, Germany, May 1950, respectively.

RADIO PROPAGATION QUALITY FIGURES

Table 69 gives provisional radio propagation quality figures for the North Atlantic and North Pacific areas, for 01 to 12 and 13 to 24 GCT, May 1950, compared with the CRPL daily radio disturbance warnings, which are primarily for the North Atlantic paths, the CRPL weekly radio propagation forecasts of probable disturbed periods, and the half-day Cheltenham, Maryland, geomagnetic K-figures.

The radio propagation quality figures are prepared from radio traffic and ionospheric data reported to the CRPL, in a manner basically the same as that described in IRPL-R31, "North Atlantic Radio Propagation Disturbances, October 1943 through October 1945," issued February 1, 1946. The scale conversions for each report are revised for use with the data beginning January 1948, and statistical weighting replaces what was, in effect, subjective weighting. Separate master distribution curves of the type described in IRPL-R31 were derived for the part of 1946 covered by each report; data received only since 1946 are compared with the master curve for the period of the available data. A report whose distribution is the same as the master is thereby converted linearly to the Q-figure scale. Each report is given a statistical weight which is the reciprocal

of the departure from linearity. The half-daily radio propagation quality figure, beginning January 1948, is the weighted mean of the reports received for that period.

These radio propagation quality figures give a consensus of opinion of actual radio propagation conditions as reported by the half day over the two general areas. It should be borne in mind, however, that though the quality may be disturbed according to the CRPL scale, the cause of the disturbance is not necessarily known. There are many variables that must be considered. In addition to ionospheric storminess itself as the cause, conditions may be reported as disturbed because of seasonal characteristics such as are particularly evident in the pronounced day and night contrast over North Pacific paths during the winter months, or because of improper frequency usage for the path and time of day in question. Insofar as possible, frequency usage is included in rating the reports. Where the actual frequency is not shown in the report to the CRPL, it has been assumed that the report is made on the use of optimum working frequencies for the path and time of day in question. Since there is a possibility that all disturbance shown by the quality figures is not due to ionospheric storminess alone, care should be taken in using the quality figures in research correlations with solar, auroral, geomagnetic, or other data. Nevertheless, these quality figures do reflect a consensus of opinion of actual radio propagation conditions as found on any one half day in either of the two general areas.

RELATIVE SUNSPOT NUMBERS

Table 70 presents the daily American relative sunspot number, R_A, computed from observations communicated to CRPL by observers in America and abroad. Beginning with the observations for January 1948, a new method of reduction of observations is employed such that each observer is assigned a scale-determining "observatory coefficient," ultimately referred to Zürich observations in a standard period, December 1944 to September 1945, and a statistical weight, the reciprocal of the variance of the observatory coefficient. The daily numbers listed in the table are the weighted means of all observations received for each day. Details of the procedure are given in the Publication of the Astronomical Society of the Pacific, issued February 1949, in an article entitled "Reduction of Sunspot-Number Observations." The American relative sunspot number computed in this way is designated R_A. It is noted that a number of observatories abroad, including the Zürich observatory, are included in R_A. The scale of R_A was referred specifically to that of the Zürich relative sunspot numbers in the standard comparison period; since that time, R_A is influenced by the Zürich observations only in that Zürich proves to be a consistent observer and receives a high statistical weight. In addition this table lists the daily provisional Zürich sunspot numbers, R_Z.

OBSERVATIONS OF THE SOLAR CORONA

Tables 71 through 73 give the observations of the solar corona during June 1950 obtained at Climax, Colorado, by the High Altitude Observatory of Harvard University and the University of Colorado. Tables 74 through 76 list the coronal observations obtained at Sacramento Peak, New Mexico, during May 1950, derived by the High Altitude Observatory from spectrograms taken by Harvard University as a part of its performance of an Air Materiel Command research and development contract administered by the Air Force Cambridge Research Laboratories. The data are listed separately for east and west limbs at 5-degree intervals of position angle north and south of the Solar Equator at the limb. The time of observation is given to the nearest tenth of a day, GCT.

Table 71 gives the intensities of the green (5303A) line of the emission spectrum of the solar corona; table 72 gives similarly the intensities of the first red (6374A) coronal line; and table 73, the intensities of the second red (6702A) coronal line; all observed at Climax in June 1950.

Table 74 gives the intensities of the green (5303A) coronal line; table 75, the intensities of the first red (6374A) coronal line; and table 76, the intensities of the second red (6702A) coronal line; all observed at Sacramento Peak in May 1950.

The following symbols are used in tables 71 through 76: a, observation of low weight; -, corona not visible; and X, position angle not included in plate estimates.

Coronal tables in this series through F69, May 1950, designated the nominal wave length of the far red coronal line as 6704A; however, 6702A appears to be a more reliable value and is used in later issues. The two are found almost interchangeably in the literature.

Table 77 gives details of the Climax observations from January 1950 through June 1950. The first column lists the Greenwich date of observations; the next six columns give the threshold or lowest observable intensity of 5303A for each spectrum plate centered at astronomical position angles 45°, 90°, 135°, 225°, 270°, and 315°, respectively; the last two columns indicate the observer and the person responsible for the intensity estimates of the observation. This table is a continuation of table 1 of CRPL-1-4, and appears in the F series regularly at intervals of six months.

OBSERVATIONS OF SOLAR FLARES

Table 78 gives the preliminary record of solar flares reported to the CRPL. These reports are communicated on a rapid schedule at the sacrifice of detailed accuracy. Definitive and complete records are published later in the Quarterly Bulletin of Solar Activity, I.A.U., in various observatory publications, and elsewhere. The present listing serves to identify and roughly describe the phenomena observed. Details should be sought from the reporting observatory.

Reporting directly to the CRPL are the following observatories: Mt. Wilson, McMath-Hulbert, U.S. Naval, Wendelstein, Kanzel, and High Altitude at Boulder, Colorado. The remainder report to Meudon (Paris), and the data are taken from the Paris URSIgram broadcast, monitored fairly regularly by the CRPL. The data on solar flares reported from Boulder, Colorado are provided by Harvard University as the result of work undertaken on an Air Materiel Command Research and Development Contract administered by the Air Force Cambridge Research Laboratories.

The table lists for each flare the reporting observatory, date, times of beginning and ending of observation, duration (when known), total projected area, and heliographic coordinates. For the maximum phase of the flare is given the time, intensity, area relative to the total area, and the importance. The column "SID observed" is to indicate when a sudden ionosphere disturbance, noted elsewhere in these reports, occurred at the time of a flare. Times are in Universal Time (GCT).

INDICES OF GEOMAGNETIC ACTIVITY

Table 79 lists various indices of geomagnetic activity based on data from magnetic observatories widely distributed throughout the world. The indices are: (1) preliminary mean 3-hourly K-indices, Kw; (2) preliminary international character-figures, C; (3) geomagnetic planetary three-hour-range indices, Kp; (4) magnetically selected quiet and disturbed days.

Kw is the arithmetic mean of the K-indices from all reporting observatories for each three hours of the Greenwich day, on a scale 0 (very quiet) to 9 (extremely disturbed). The C-figure is the arithmetic mean of the subjective classification by all observatories of

each day's magnetic activity on a scale of 0 (quiet) to 2 (storm). The magnetically quiet and disturbed days are selected by the international scheme outlined on pages 219-227 in the December 1943 issue of Terrestrial Magnetism and Atmospheric Electricity.

Kp is the mean standardized K-index from 11 observatories between geomagnetic latitudes 47 and 63 degrees. The scale is 0 to 9, expressed in thirds of a unit, e.g., 5- is 4 2/3, 5o is 5 0/3, and 5 + is 5 1/3. This planetary index is designed to measure solar particle-radiation by its magnetic effects, specifically to meet the needs of research workers in the ionospheric field. A complete description of Kp has appeared in Bulletin 12b, "Geomagnetic Indices C and K, 1948," published in Washington, D. C., 1949, by the Association of Terrestrial Magnetism and Electricity, International Union of Geodesy and Geophysics. Tables of Kp for 1945-48 are in Bulletin 12b; for 1940-44 and 1949, in these CRPL-F reports, F65-67; for 1950, monthly in F68 and following issues. Current tables are also published quarterly in the Journal of Geophysical Research along with data on sudden commencements (sc) and solar flare effects (sfe).

The Committee on Characterization of Magnetic Disturbance, ATME, IUGG, has kindly supplied this table. The Meteorological Office, De Bilt, Holland, collects the data and compiles Kw, C and selected days. The Chairman of the Committee computes the planetary index.

ERRATUM

CRPL-F70, p.31, table 47: First May 3 item, Solar flare at 0950 should have reference symbol **; second May 3 item, Solar flare at 0956 should have reference symbol ***.

Table 1

Washington, D. C. (38.7 N, 77.1 W) June 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(290)	5.9						2.8
01	280	5.6						2.8
02	270	5.2						2.8
03	270	4.5						2.8
04	270	4.0						2.8
05	280	4.4	---	---	(110)	(1.7)	1.9	3.0
06	300	5.2	240	3.7	110	2.3	3.4	3.0
07	320	5.6	220	4.2	100	2.8	4.9	3.0
08	340	6.2	210	4.5	100	3.1	4.0	2.9
09	330	6.4	200	4.8	100	3.3	4.3	2.9
10	370	(6.5)	200	4.9	100	3.5	4.8	(2.8)
11	380	6.8	200	5.0	(100)	3.5	5.0	2.7
12	380	6.8	200	5.0	(100)	3.6	4.5	2.7
13	390	7.0	200	5.0	(100)	3.6	5.0	2.7
14	380	7.0	200	5.0	(100)	3.6	3.5	2.8
15	380	7.0	210	4.9	100	3.5	3.5	2.8
16	340	7.1	220	4.7	100	3.3		2.8
17	320	7.1	220	4.4	110	3.0	3.4	2.8
18	300	7.3	230	---	110	2.5	4.0	2.9
19	260	(7.4)			(110)	1.9	3.4	(3.0)
20	250	(7.0)					2.5	(2.9)
21	260	(7.0)						(2.8)
22	270	(6.6)					3.0	(2.8)
23	290	(6.0)						(2.8)

Time: 75.0°W.
Sweep: 1.0 Mc to 25.0 Mc in 30 seconds (June 1 through 1200, June 7), in 15 seconds (1215, June 7 through June 30).

Table 2

Kiruna, Sweden (67.8°N, 20.5°E) May 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs*	(M3000)F2
00	(310)	5.1					4.3	
01	(295)	5.2					4.4	
02	(320)	5.3					3.6	
03	320	5.3	---	3.0	100	2.0		
04	320	5.1	250	3.5	100	2.2		
05	325	5.4	250	3.8	105	2.6		
06	350	5.5	250	4.1	100	2.7		
07	400	5.8	240	4.3	100	2.8		
08	390	6.0	230	4.6	100	3.0		
09	390	6.4	225	4.7	100	3.1		
10	390	6.6	225	4.8	100	3.2		
11	425	6.6	225	5.0	100	3.2		
12	395	6.7	220	5.0	100	3.2		
13	380	6.4	220	4.9	100	3.2		
14	370	6.4	220	4.8	105	3.1		
15	340	6.2	225	4.7	100	3.0		
16	320	6.1	230	4.5	100	2.8		
17	270	6.0	240	4.3	105	2.8		
18	290	6.3	240	4.1	110	2.6		
19	280	5.8	---	---	110	2.4	3.0	
20	270	5.8			110	2.0		
21	290	5.4			---	---	3.5	
22	305	5.2					3.8	
23	325	5.0					4.0	

Time: Local.
Sweep: 1.0 Mc to 16.0 Mc in 30 seconds.
*Combined Es and N1 (auroral) reflections.

Table 3

Oslo, Norway (60.0°N, 11.0°E) May 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	5.9						(2.6)
01	295	5.3						(2.6)
02	300	(5.1)					1.5	(2.6)
03	300	4.7	---	---			1.9	(2.6)
04	290	5.1	275	---	110	1.6	2.2	(2.7)
05	270	5.3	255	(3.6)	110	2.1	2.2	(2.8)
06	350	5.4	240	4.1	105	2.5	2.7	2.8
07	350	6.0	235	4.3	105	2.8	3.1	2.8
08	370	6.4	220	4.5	105	3.0	3.4	2.7
09	350	6.8	220	4.8	100	3.2	3.6	2.8
10	380	7.1	215	5.0	100	3.3	3.6	2.8
11	380	7.0	210	5.0	100	3.4	3.5	2.8
12	380	7.2	220	5.1	100	3.4	3.6	2.8
13	370	7.0	220	5.1	100	3.5	3.6	2.8
14	370	7.0	220	5.0	100	3.5	3.5	2.8
15	360	6.8	220	5.0	105	3.4	3.2	2.8
16	335	7.1	225	(4.8)	100	3.2		2.8
17	325	7.2	230	4.3	105	3.0	3.1	2.8
18	290	7.6	240	(4.2)	105	2.6	3.0	2.9
19	250	7.4	350	---	110	2.3	2.7	3.0
20	255	7.4			130	1.9	2.2	3.0
21	260	7.2					1.5	(2.8)
22	265	6.8						(2.8)
23	280	6.4						(2.7)

Time: 15.0°E.
Sweep: 1.3 Mc to 14.0 Mc in 8 minutes, automatic operation; supplementary recorder, 1.6 Mc to 10.0 Mc in 5 minutes.

Table 4

Boston, Massachusetts (42.4°N, 71.2°W) May 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	5.9						2.7
01	270	5.6						2.7
02	280	4.9						2.7
03	280	4.6						2.7
04	280	4.4			---	---		2.8
05	250	4.9			120	2.2		3.0
06	240	5.4	230	---	110	2.7		3.0
07	270	6.3	220	4.3	110	3.1		3.0
08	340	6.5	210	4.7	110	3.4		2.8
09	340	6.9	210	5.0	110	3.6		2.9
10	330	7.0	200	5.1	110	3.7		2.8
11	350	7.2	220	5.2	110	3.8		2.8
12	360	7.4	220	5.2	110	3.8		2.7
13	350	7.4	220	5.2	110	3.7		2.8
14	360	7.5	220	5.1	110	3.5		2.8
15	350	7.6	220	5.0	110	3.4		2.7
16	330	7.6	230	4.6	110	3.3		2.8
17	290	7.6	230	4.2	110	3.1		2.8
18	250	7.5	---	---	120	2.6		2.9
19	250	7.6			---	---		2.9
20	260	7.4						2.9
21	260	7.0						2.8
22	270	6.8						2.8
23	290	6.5						2.7

Time: 75.0°W.
Sweep: 0.5 Mc to 18.0 Mc in 1 minute.

Table 5

San Francisco, California (37.4°N, 122.2°W) May 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	320	5.4					2.3	2.6
01	310	5.5					2.2	2.6
02	310	5.2					2.8	2.6
03	300	5.0					2.8	2.6
04	300	4.8					2.8	2.8
05	300	4.8	---	---	---	---	2.8	2.8
06	260	6.0	260	3.8	120	2.3	3.2	2.9
07	350	6.6	250	4.3	120	2.9	4.2	2.8
08	420	7.2	240	4.7	120	3.4	5.0	2.6
09	400	7.6	220	4.9	120	3.8	4.8	2.6
10	410	7.4	220	5.2	120	3.9		2.6
11	400	7.9	220	5.2	120	4.1		2.8
12	390	8.5	220	5.2	120	3.9		2.6
13	380	8.2	240	5.2	120	4.0		2.8
14	360	8.0	240	5.2	120	4.2		2.8
15	350	7.7	240	5.0	120	4.0		2.8
16	340	7.8	240	4.8	120	3.9	4.8	2.8
17	300	7.6	260	4.4	120	3.1	4.4	3.0
18	280	7.6	270	---	120	2.4	3.9	3.0
19	260	7.5					2.8	3.1
20	240	7.0					2.5	3.0
21	260	6.4					2.8	2.8
22	290	6.0					2.9	2.8
23	310	5.6					2.3	2.6

Time: 120.0°W.
Sweep: 1.3 Mc to 18.0 Mc in 4 minutes.

Table 6

White Sands, New Mexico (32.3°N, 106.5°W) May 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	5.7					2.3	2.6
01	300	5.4					2.3	2.8
02	300	5.5					2.4	2.8
03	300	5.3					2.6	2.6
04	280	5.0					2.7	2.6
05	290	5.1	---	---	---	---	2.9	2.7
06	260	8.3	---	---	120	(2.3)	3.9	2.8
07	290	7.0	230	4.4	110	(2.8)	4.1	2.9
08	310	7.1	220	4.8	110	(3.2)	5.1	2.7
09	360	7.8	220	5.0	110	(3.8)	5.0	2.8
10	380	8.4	220	5.2	110	(3.8)	5.2	2.6
11	390	9.3	220	5.3	110	(3.9)	4.9	2.6
12	360	9.7	220	5.4	110	4.0	4.6	2.8
13	360	10.3	220	5.3	110	3.9	4.3	2.6
14	350	9.8	230	5.2	110	3.3	4.2	2.6
15	340	9.9	230	5.1	110	3.6	4.1	2.7
16	320	9.3	240	4.8	110	3.4	3.9	2.7
17	300	9.1	230	---	110	2.9	4.1	2.8
18	260	9.1	---	---	120	2.3	3.4	2.8
19	250	8.2			---	---	2.3	2.9
20	240	7.4					2.3	2.8
21	260	6.7					2.4	2.7
22	290	5.9					2.3	2.6
23	310	5.9					2.8	2.6

Time: 105.0°W.
Sweep: 0.8 Mc to 14.0 Mc in 2 minutes.

Table 7

Baton Rouge, Louisiana (30.5°N, 91.2°W) May 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	340	6.0						2.6
01	320	6.0						2.7
02	320	5.6						2.7
03	310	5.3						2.7
04	320	5.2						2.7
05	290	5.3						2.9
06	280	6.5	270	---	---	---		3.0
07	290	6.8	250	---	120	2.8		2.9
08	310	7.5	240	---	120	3.2		2.8
09	350	8.0	240	5.2	120	(3.4)		2.7
10	400	8.4	230	5.2	120	3.6		2.6
11	400	8.8	230	5.3	120	3.5		2.6
12	400	9.4	240	5.4	120	(3.6)		2.6
13	400	9.7	250	5.4	120	3.6		2.6
14	380	10.0	260	5.3	120	(3.5)		2.6
15	380	9.7	260	5.0	120	3.5		2.7
16	350	9.4	260	4.6	120	3.3		2.7
17	320	9.1	270	---	130	2.9		2.7
18	290	9.1	270	---	---	---		2.9
19	270	8.5						2.8
20	270	7.6						2.7
21	300	7.0						2.7
22	320	6.4						2.7
23	330	6.2						2.6

Time: 90.0°W.
Sweep: 2.12 Mc to 14.1 Mc in 5 minutes, automatic operation.

Table 8

Maui, Hawaii (20.8°N, 156.5°W) May 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	8.6						2.8
01	280	8.5						2.9
02	250	7.8						3.0
03	260	6.8						2.9
04	270	6.3						2.8
05	300	6.2						2.7
06	260	6.2	---	---	130	---		2.8
07	240	7.0	---	---	120	2.6	4.7	2.9
08	250	8.4	220	5.0	110	3.1	5.4	2.6
09	340	9.5	220	5.3	110	3.5	6.2	2.5
10	340	10.4	210	5.3	110	3.7	5.1	2.6
11	340	11.1	210	5.5	110	3.8	4.8	2.6
12	360	12.0	210	5.4	110	3.9	5.1	2.7
13	340	12.5	220	5.4	110	(3.9)	4.6	2.7
14	330	12.9	220	5.3	110	3.8	4.4	2.8
15	320	13.1	220	5.0	110	3.6	4.8	2.8
16	300	13.4	230	4.8	110	3.4	4.6	2.9
17	280	12.8	240	---	110	3.0	4.5	2.9
18	260	12.4	240	---	120	2.3	4.5	2.9
19	240	11.2					3.6	3.0
20	260	9.5					3.1	2.8
21	280	9.4					2.6	2.7
22	280	9.0					2.2	2.7
23	280	8.6					2.2	2.8

Time: 150.0°W.
Sweep: 1.0 Mc to 26.0 Mc in 15 seconds.

Table 9

San Juan, Puerto Rico (18.4°N, 66.1°W) May 1960

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	9.0						2.8
01	260	8.5						2.8
02	260	(8.3)						2.8
03	260	7.4						2.8
04	250	6.8						2.8
05	---	6.1						2.8
06	260	6.8						2.9
07	350	8.0		---				3.0
08	250	8.9		4.5		3.3		2.9
09	280	9.6		5.0		(3.6)		2.8
10	300	10.2		5.2		---	4.1	2.8
11	320	10.9		5.3		---		2.7
12	320	11.6		5.4		---		2.7
13	300	(12.1)		(5.3)		---	5.3	(2.7)
14	310	12.4		5.4		---		2.8
15	310	12.5		5.1		---		2.7
16	290	12.1		4.8		3.5	4.7	2.7
17	280	11.5		---		---	4.0	2.8
18	250	11.0						2.8
19	250	9.6						2.8
20	270	(9.9)						(2.7)
21	290	(9.5)						(2.7)
22	280	(9.4)						(2.7)
23	280	9.0						2.8

Time: 60.0°W.
Sweep: 2.8 Mc to 13.0 Mc in 9 minutes, automatic operation; supplemented by manual operation.

Table 10

Trinidad, Brit. West Indies (10.6°N, 61.2°W) May 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	10.6						3.0
01	230	9.6						3.1
02	230	8.8						3.1
03	220	8.0						3.2
04	220	7.4						3.3
05	220	6.4						3.1
06	240	6.6			100	1.9	2.6	3.1
07	220	8.0	---	---	100	2.8	3.6	3.1
08	240	9.2	220	4.7	100	3.2	3.9	3.0
09	260	10.2	210	5.2	100	3.6	4.3	2.9
10	280	11.2	200	6.4	100	3.8	5.2	2.9
11	310	12.0	200	5.6	100	4.0	5.0	2.9
12	320	12.8	220	5.7	100	4.1	5.5	2.9
13	300	13.2	220	5.5	100	4.0	5.6	3.0
14	300	13.2	210	5.4	100	3.9	5.6	3.0
15	280	12.8	210	5.2	100	3.7	5.8	3.0
16	270	12.5	220	4.9	100	3.5	5.4	2.9
17	260	12.0	220	4.4	100	2.9	4.8	2.9
18	240	11.8	---	---	---	---	4.2	2.9
19	260	11.1					4.2	2.8
20	280	11.4					3.0	2.8
21	280	11.4					2.5	2.8
22	270	11.6					2.0	2.9
23	250	11.4						3.0

Time: 60.0°W.
Sweep: 1.2 Mc to 18.0 Mc, manual operation.

Table 11

Huancayo, Peru (12.0°S, 75.3°W) May 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	230	7.9					2.8	3.0
01	220	7.5						3.0
02	230	6.7						3.1
03	240	5.3						3.1
04	240	4.3						3.0
05	250	3.9						3.0
06	280	5.0			100	1.8	2.9	2.9
07	250	8.4			100	2.5	3.2	3.0
08	260	10.1	220	5.2	100	3.2	7.8	2.8
09	280	11.2	220	5.2	100	3.4	8.5	2.5
10	300	10.9	210	5.2	100	---	9.8	2.4
11	300	10.3	200	5.2	100	---	10.2	2.3
12	300	10.0	200	5.1	100	---	9.4	2.3
13	300	10.1	200	5.0	100	---	10.1	2.3
14	280	10.3	200	5.0	100	---	9.8	2.3
15	260	10.3	210	5.2	100	3.3	8.7	2.3
16	240	10.2			100	3.0	6.2	2.3
17	260	9.9			100	2.2	3.4	2.3
18	320	9.4			100	---		2.2
19	330	8.9						2.3
20	300	8.9						2.4
21	250	8.9					2.6	2.6
22	230	8.5						2.8
23	230	8.5						2.9

Time: 75.0°W.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes, automatic operation.

Table 12

Kiruna, Sweden (67.8°N, 20.5°E) April 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs*	(M3000)F2
00	(280)	(4.8)					3.7	
01	(290)	(5.0)					3.2	
02	290	5.0					3.1	
03	280	4.8					2.0	
04	280	4.8	---	---	---	---		
05	265	5.0	---	---	110	1.8		
06	270	5.8	---	---	110	2.3		
07	285	6.0	240	4.2	110	2.5		
08	310	6.5	230	4.2	110	2.5		
09	310	6.6	230	4.4	110	3.0		
10	310	6.9	225	4.5	105	3.0		
11	300	7.3	210	4.6	105	3.1		
12	300	7.0	220	4.6	105	3.2		
13	300	6.8	225	4.6	105	3.1		
14	280	7.5	230	4.3	110	3.0		
15	275	7.0	230	4.0	105	2.9		
16	260	6.8	250	3.9	110	2.5		
17	260	6.6	---	---	110	2.4		
18	260	6.3			110	2.2	2.5	
19	270	6.0			---	1.8	3.0	
20	290	5.5					3.0	
21	295	5.3					3.1	
22	300	5.0					3.2	
23	(290)	5.0					3.5	

Time: Local.
Sweep: 1.0 Mc to 16.0 Mc in 30 seconds.
*Combined Es and E1 (auroral) reflections.

Table 13

Lindau/Harz, Germany (51.6°N, 10.1°E) April 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	5.7						
01	300	5.6						
02	290	5.0						
03	290	4.7					2.0	
04	280	4.2						
05	280	4.2	---	---	---	E		
06	250	5.4	---	---	100	1.8	3.2	
07	250	6.1	230	3.9	100	2.5	3.4	
08	260	6.8	220	4.3	100	2.9		
09	280	7.8	210	4.5	100	3.2		
10	280	8.4	200	4.6	100	3.4		
11	290	8.8	200	4.8	100	3.4		
12	300	9.0	200	4.8	100	3.4		
13	300	9.2	200	5.0	100	3.5	4.0	
14	300	9.3	210	4.8	100	3.4	4.2	
15	280	9.2	220	4.6	100	3.3		
16	270	9.0	220	4.4	100	3.1		
17	250	9.2	230	---	100	2.8	3.4	
18	250	9.2	---	---	100	2.3	3.2	
19	250	8.9			---	E	2.8	
20	230	7.7					2.1	
21	250	6.9					2.0	
22	270	6.3						
23	290	5.9						

Time: 15.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 8 minutes.

Table 14

Wakkanai, Japan (45.4°N, 141.7°E) April 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	310	6.7					1.8	2.6
01	300	6.5					1.3	2.6
02	300	6.6					1.4	2.6
03	300	6.2					1.8	2.6
04	300	5.8					2.0	2.6
05	290	6.3			110	1.8		2.7
06	260	7.6	---	---	100	2.5		3.0
07	270	8.2	260	---	100	2.9		2.9
08	280	8.8	250	5.0	100	3.3		3.0
09	280	9.4	240	---	100	3.4		2.9
10	290	9.6	230	5.1	100	3.5		2.9
11	280	10.2	240	5.3	100	3.6		2.8
12	290	10.6	230	---	100	3.6		2.8
13	290	10.6	230	---	100	3.5		2.8
14	290	10.8	240	---	100	3.4		2.8
15	290	10.2	230	---	100	3.2		2.9
16	260	10.0	240	---	100	3.0		2.9
17	270	9.5	240	---	100	2.6		2.9
18	270	9.0	---	---	100	1.9		2.9
19	260	8.1					2.6	2.9
20	250	7.5					2.2	2.8
21	270	7.2						2.7
22	280	6.7						2.7
23	300	6.8						2.6

Time: 135.0°E.
Sweep: 1.0 Mc to 14.0 Mc in 15 minutes, manual operation.

Table 15

Johannesburg, Uninn of S. Africa (26.2°S, 28.0°E) April 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	3.8						2.8
01	280	4.0					1.7	2.8
02	270	4.1						2.8
03	250	3.7						3.0
04	(250)	3.3						2.9
05	(260)	3.4						2.8
06	260	3.9			---	---		2.8
07	230	8.0	---	---	120	2.3		3.3
08	230	10.4	230	---	110	2.8		3.3
09	240	11.6	220	---	110	3.2		3.2
10	250	12.2	220	---	110	3.6		3.1
11	250	12.2	210	---	110	3.7	4.0	3.0
12	250	12.0	200	---	110	(3.8)	3.9	2.9
13	280	12.6	210	---	110	(3.7)	4.0	2.9
14	280	12.8	230	---	110	3.6	3.8	2.9
15	260	12.4	220	---	110	3.4	3.8	2.9
16	240	12.0	240	---	120	3.1	3.5	2.9
17	240	12.1			120	2.4	2.9	3.0
18	230	11.4			---	---	1.9	3.1
19	220	9.6						3.1
20	220	8.0					1.5	3.1
21	230	6.2					1.6	3.2
22	240	4.9						3.1
23	(260)	4.0					1.9	2.9

Time: 30.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 16

Capetown, Union of S. Africa (34.2°S, 18.3°E) April 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(270)	3.4						2.8
01	---	3.3						2.7
02	(280)	3.4						2.7
03	(260)	3.5						2.7
04	(260)	3.4						2.9
05	(250)	3.3						2.8
06	(250)	3.1						2.7
07	260	5.0	---	---	---	1.5		2.9
08	230	8.1	---	---	120	(2.4)		3.3
09	240	10.2	240	---	110	3.0		3.2
10	250	11.4	230	---	110	(3.3)		3.2
11	250	11.8	220	4.6	110	(3.5)		3.0
12	250	12.6	220	4.3	110	(3.6)	3.7	2.9
13	260	(12.8)	220	4.2	110	(3.8)		(2.9)
14	270	(13.1)	230	---	110	(3.6)	3.8	(2.9)
15	260	13.0	240	---	110	(3.5)		2.9
16	250	(12.8)	240	---	110	(3.2)		(2.9)
17	250	12.8	250	---	120	2.8		3.0
18	230	12.0	---	---	120	(2.1)	1.7	3.0
19	220	10.3			---	---	1.5	3.1
20	(220)	8.3					1.6	3.1
21	230	6.8						3.2
22	(230)	5.0					1.6	3.2
23	(250)	3.9						3.0

Time: 30.0°E.
Sweep: 1.0 Mc to 15.0 Mc in 7 seconds.

Table 17

Kiruna, Sweden (67.8°N, 20.5°E) March 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs*	(M3000)F2
00	(330)	3.8					2.6	
01	320	3.9					2.7	
02	320	3.6					2.2	
03	320	3.6					2.2	
04	300	3.5						
05	280	3.6					2.0	
06	270	4.3	---	---	---	1.6		
07	250	5.0	---	---	120	1.9		
08	255	5.8	240	---	120	2.3		
09	250	6.6	240	---	120	2.4		
10	250	7.0	240	---	110	2.6		
11	250	7.6	240	---	110	2.6		
12	260	8.0	240	---	110	2.7		
13	260	7.9	240	---	115	2.7		
14	260	7.8	240	---	115	2.6		
15	245	7.3	---	---	120	2.5		
16	250	7.2	---	---	120	2.2		
17	245	6.6			140	2.0		
18	250	5.0			---	---	1.8	
19	250	4.8					2.2	
20	260	4.6						
21	270	4.3					3.0	
22	290	4.0					3.0	
23	320	3.7					3.2	

Time: Local.
Sweep: 1.0 Mc to 16.0 Mc in 30 seconds.
*Combined Es and N1 (auroral) reflections.

Table 18

Wakkanai, Japan (45.4°N, 141.7°E) March 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	5.7					2.1	2.6
01	300	5.7					1.4	2.7
02	290	5.4					1.3	2.6
03	300	5.5						2.6
04	290	5.2					2.2	2.6
05	300	5.2					1.4	2.6
06	270	6.9	---	---	100	1.8		3.0
07	250	8.7	---	---	100	2.5		3.0
08	250	10.0	240	---	100	3.0		3.0
09	250	11.1	250	---	100	3.2		2.9
10	260	11.5	230	---	100	3.4		2.9
11	280	12.2	220	---	100	3.5		2.9
12	280	12.1	240	---	100	3.5		2.9
13	280	11.8	230	---	100	3.4		2.9
14	260	11.5	240	---	100	3.3		2.9
15	260	11.2	230	---	100	3.1		2.9
16	260	10.6	---	---	100	2.7		2.9
17	260	9.5	---	---	100	2.2		3.0
18	250	8.3	210	---	100	1.4	2.0	3.0
19	260	7.3					1.4	2.9
20	280	6.8						2.7
21	290	6.6						2.7
22	290	6.4						2.6
23	300	6.1						2.6

Time: 135.0°E.
Sweep: 1.0 Mc to 14.0 Mc in 15 minutes, manual nperation.

Table 19

Akita, Japan (39.7°N, 140.1°E) March 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	6.1						2.7
01	270	6.0						2.8
02	270	5.8						2.8
03	260	5.4						2.8
04	260	5.1						2.7
05	280	5.0						2.8
06	240	6.8	---	---	140	1.7		3.0
07	230	8.9	---	---	120	2.6		3.2
08	240	10.2	220	---	110	3.0		3.2
09	250	11.5	230	---	110	3.3		3.1
10	250	11.8	220	---	110	3.5		3.1
11	260	12.2	230	---	110	3.6		3.0
12	270	12.5	230	---	110	3.6		3.0
13	270	12.3	230	---	110	3.6		3.0
14	270	12.3	230	---	110	3.4		3.0
15	260	11.8	230	---	110	3.2		3.0
16	250	11.3	230	---	110	3.0		3.0
17	240	10.8	240	---	110	2.3		3.1
18	230	9.9	---	---	120	1.7		3.1
19	220	7.8						3.0
20	240	7.3						2.9
21	260	6.6						2.8
22	280	6.4						2.8
23	280	6.3						2.8

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 15 minutes, manual operation.

Table 20

Tokyo, Japan (35.7°N, 139.5°E) March 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	6.1					3.0	2.8
01	260	5.9					3.2	2.9
02	250	5.8					2.0	3.0
03	250	5.4					3.0	3.0
04	240	4.8					1.6	2.9
05	260	4.7					2.0	2.8
06	240	5.6	---	---	140	1.8		3.2
07	220	8.7	---	---	110	2.5		3.3
08	220	10.2	---	---	100	3.0		3.3
09	230	11.0	220	---	100	3.3	3.4	3.2
10	250	12.0	230	---	100	3.4		3.1
11	260	12.6	210	---	100	3.6		3.1
12	280	12.8	230	---	100	3.6		3.0
13	270	12.8	220	---	100	3.6		3.0
14	250	12.7	220	---	100	3.5		3.0
15	240	12.3	220	---	100	3.4		3.1
16	240	12.0	230	---	100	2.9		3.2
17	230	11.2	---	---	100	2.4		3.2
18	220	10.0			---	1.6	2.8	3.2
19	220	7.6					2.4	3.2
20	240	7.0					2.0	3.0
21	250	6.6						3.0
22	260	6.4					3.0	2.9
23	270	6.6						2.8

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 15 minutes, manual operation.

Table 21

Yamagawa, Japan (31.2°N, 130.6°E) March 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	290	6.8					2.0	2.8
01	290	6.4					2.2	2.8
02	280	6.2						2.8
03	270	5.9						3.0
04	260	5.1						3.0
05	280	4.4						2.8
06	300	4.4	---	---	---	B		2.8
07	250	7.5	---	---	130	2.1		3.2
08	250	9.5	240	---	120	2.8		3.2
09	260	10.3	230	---	110	3.2		3.1
10	270	11.4	230	---	110	3.5	4.4	2.9
11	300	12.2	230	---	110	3.6	4.4	2.9
12	300	13.2	240	---	110	3.8	4.6	2.9
13	300	13.4	240	---	110	3.7	4.8	2.8
14	300	14.0	240	---	110	3.7	4.5	2.8
15	290	13.6	240	---	110	3.6	4.4	2.9
16	280	13.3	240	---	110	3.2	4.2	2.9
17	250	12.6	250	---	120	2.8	3.8	2.9
18	260	12.2	240	---	110	2.0	3.0	3.0
19	240	10.8					2.6	3.1
20	240	9.0					3.0	2.9
21	260	8.1					3.4	2.9
22	270	7.6					2.2	2.8
23	280	7.4					2.0	2.8

Time: 135.0°E.
Sweep: 1.2 Mc to 18.0 Mc in 15 minutes, manual operation.

Table 22

Brisbane, Australia (27.5°S, 153.0°E) March 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	7.1					3.0	2.8
01	250	7.0					2.3	2.8
02	250	6.6					2.6	2.8
03	250	6.0					2.1	2.8
04	260	5.8					2.0	2.8
05	260	5.5						2.8
06	240	6.5			140	1.8		3.1
07	240	8.5	---	---	110	2.7	3.2	3.2
08	250	9.3	220	4.5	110	3.2	3.6	3.1
09	260	10.0	220	5.0	100	3.4	3.9	3.0
10	270	10.4	210	5.0	100	3.6	4.0	3.0
11	280	10.9	200	5.2	100	3.8	3.8	2.9
12	280	11.2	200	5.4	100	3.8	3.2	2.9
13	280	11.1	210	5.0	100	3.8		2.9
14	290	11.0	220	5.1	110	3.7	3.3	2.8
15	270	11.0	220	5.0	110	3.5		2.9
16	250	10.6	230	4.4	110	3.2		3.0
17	240	10.0	---	---	110	2.7	3.0	3.0
18	240	9.3			---	---	3.5	3.0
19	240	8.1						2.8
20	270	7.8						2.7
21	280	7.7						2.7
22	280	7.6					2.8	2.7
23	280	7.3					2.7	2.7

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 23

Watheroo, W. Australia (30.3°S, 115.9°E) March 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	270	5.7					2.4	2.7
01	280	5.4					2.5	2.8
02	270	5.4					2.8	2.8
03	260	5.2					2.8	2.8
04	260	4.8					2.8	2.8
05	260	4.7					2.8	2.8
06	250	4.9					2.8	3.0
07	230	6.8		---		2.4	2.8	3.3
08	250	8.0		4.6		2.9	3.3	3.3
09	260	8.8		4.8		3.3	3.7	3.2
10	270	9.2		5.0		3.4	4.0	3.1
11	300	9.6		5.1		3.5	4.0	3.0
12	300	10.2		5.3		3.6	4.1	2.9
13	300	10.5		5.2		3.6	3.9	2.9
14	300	10.6		5.3		3.5	3.8	2.9
15	300	10.6		5.1		3.3	3.7	2.9
16	290	10.5		5.0		3.3	3.4	2.9
17	260	10.3		4.0		2.7	3.4	2.9
18	240	9.7				1.8	2.8	3.0
19	230	8.9				---	2.4	3.0
20	230	7.3					2.3	2.9
21	240	6.4					2.4	2.9
22	250	6.0					2.2	2.9
23	260	6.0					2.3	2.8

Time: 120.0°E.
Sweep: 16.0 Mc to 0.5 Mc in 15 minutes, automatic operation.

Table 24

Canberra, Australia (35.3°S, 149.0°E) March 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	6.9					3.3	2.8
01	260	6.5					2.9	2.8
02	250	6.0					3.1	2.8
03	250	5.7					2.9	2.8
04	250	5.4					2.8	2.8
05	250	5.1					3.8	2.9
06	240	5.6			150	1.4	2.9	3.0
07	240	7.0			110	3.4	3.0	3.3
08	280	8.0	220	---	100	3.0	3.5	3.2
09	260	8.5	210	4.6	100	3.4	3.8	3.1
10	260	9.2	200	4.8	100	3.5	4.0	3.0
11	250	9.6	200	5.0	100	3.6	4.3	3.0
12	230	10.0	300	5.0	100	3.8	3.8	3.0
13	260	10.2	200	5.0	100	3.7	3.8	3.0
14	280	10.0	210	5.0	100	3.6	3.9	3.0
15	260	10.0	210	4.5	100	3.5	3.5	3.0
16	250	9.8	220	4.5	100	3.2	3.5	3.0
17	240	9.8	230	---	100	2.6	3.4	3.0
18	240	9.3			110	1.8	3.5	3.0
19	240	8.5					3.0	2.9
30	240	7.6					2.7	2.8
21	250	7.4					2.6	2.8
22	260	7.0					2.9	2.8
23	260	7.0					3.5	2.8

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 25

Christchurch, New Zealand (43.5°S, 172.7°E) March 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	6.2					2.1	2.6
01	280	6.0					2.0	2.6
02	280	5.7					1.8	2.6
03	270	5.2					1.8	2.7
04	270	4.6					1.8	2.7
05	270	4.1					1.7	2.7
06	270	4.6				1.3	1.8	2.9
07	250	6.4	250	---		2.1		3.0
08	260	7.4	240	4.2		2.8		3.1
09	280	8.0	230	4.6		3.1		3.1
10	280	8.8	220	4.8		3.3	3.2	3.0
11	280	8.9	220	5.0		3.5		3.0
12	280	9.4	230	5.0		3.6		2.9
13	280	9.8	230	5.0		3.5	3.7	2.9
14	280	9.5	240	(4.9)		3.4		2.9
15	270	9.1	230	(4.7)		3.2		2.9
16	270	9.0	240	4.3		2.9		2.9
17	250	9.0	250	---		2.4		2.9
18	250	9.1				1.5		2.9
19	250	8.5					1.8	2.8
20	260	7.8					1.8	2.7
21	270	7.4					2.5	2.7
22	280	7.0					3.2	2.6
23	280	6.6					2.0	2.6

Time: 172.5°E.
Sweep: 1.0 Mc to 13.0 Mc.

Table 26

Kiruna, Sweden (67.8°N, 20.5°E) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs*	(M3000)F2
00	310	3.5					2.4	
01	(310)	3.4					2.2	
02	290	3.9					2.0	
03	(280)	3.8					1.7	
04	265	3.7						
05	260	3.5						
06	250	3.2						
07	250	3.8						
08	240	4.8			---	2.0		
09	230	5.8			115	2.1		
10	230	7.0	---	---	120	2.2		
11	225	7.6	---	---	120	2.4		
12	220	8.4			110	2.4		
13	225	8.2			115	2.4		
14	220	8.2			120	2.2		
15	220	8.0			130	2.1		
16	220	7.0			135	1.8		
17	230	5.5						
18	220	5.0						
19	225	4.2						
20	230	3.9					2.1	
21	(230)	3.5					2.3	
22	(270)	3.6					2.2	
23	(280)	4.0					2.2	

Time: Local.
Sweep: 1.0 Mc to 16.0 Mc in 30 seconds.
*Combined Es and N1 (auroral) reflections.

Table 27

Rarotonga I. (21.3°S, 159.8°W) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	300	8.8					2.7	2.9
01	290	8.9					3.4	2.8
02	300	8.6						3.0
03	310	8.2						2.9
04	300	7.9						2.9
05	310	7.6					3.7	3.0
06	300	8.6	280	4.2			3.5	3.0
07	250	9.9	240	4.9	---	2.5	3.7	3.0
08	260	11.5	240	6.4	110	3.0	4.0	3.1
09	300	11.2	240	6.5	110	3.4	4.2	3.0
10	310	11.2	240	6.7	110	3.9	4.5	2.8
11	330	11.6	240	6.5	110	3.8	4.4	2.9
12	340	12.5	260	6.7	110	3.9	4.5	2.9
13	340	12.9	280	6.4	110	3.9		2.9
14	320	12.5	270	6.0	110	3.8		3.0
15	320	12.4	250	6.0	110	3.8	3.7	3.0
16	310	12.2	250	5.5	110	3.5	4.0	3.0
17	300	12.1	250	5.4	110	3.2	4.6	2.9
18	280	11.0	270	7.2	---	2.5	3.9	3.0
19	280	9.2	---	---			4.0	2.9
20	290	10.4					4.0	2.8
21	300	9.3					3.2	(2.7)
22	300	9.1					3.2	2.9
23	300	8.1					2.9	2.9

Time: 157.5°W.
Sweep: 2.0 Mc to 16.0 Mc, manual operation.

Table 28

Brisbane, Australia (27.5°S, 153.0°E) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	9.0					3.4	2.7
01	260	7.9					3.7	2.8
02	250	7.1					3.2	2.8
03	250	6.6					3.0	2.8
04	250	6.5					2.8	2.8
05	250	6.0					2.5	2.8
06	240	6.7	---	---	130	2.2	2.4	3.1
07	240	7.8	230	4.3	110	2.8	3.0	3.2
08	250	8.2	220	4.6	110	3.3	3.8	3.1
09	280	8.6	210	5.2	---	---	4.3	3.0
10	300	9.5	200	5.5	110	3.9	4.3	2.8
11	300	10.0	200	5.5	100	3.9	4.4	2.8
12	310	10.8	200	5.6	110	4.0	4.4	2.8
13	310	11.0	220	5.5	110	4.0	4.0	2.8
14	300	11.0	230	5.4	110	3.9	3.6	2.8
15	300	10.6	220	5.0	110	3.6		2.8
16	280	10.2	230	5.0	110	3.3		2.8
17	270	10.0	240	4.4	120	2.9		2.9
18	250	9.6			130	2.2	3.2	2.9
19	240	8.8					3.2	2.8
20	260	8.0					2.2	2.7
21	280	7.9					2.4	2.7
22	300	7.8					2.6	2.7
23	300	7.6					2.0	2.7

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 29

Canberra, Australia (35.3°S, 149.0°E) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	7.5					4.2	2.8
01	260	7.0					3.4	2.8
02	260	6.5					3.4	2.8
03	250	6.1					3.1	2.8
04	240	5.6					3.0	2.9
05	250	5.1			---	E	2.6	2.9
06	240	5.8	---	---	100	2.0	2.9	3.0
07	240	6.8	220	4.0	100	2.6	3.9	3.1
08	250	7.7	220	4.5	100	3.1	4.0	3.0
09	260	8.0	200	4.8	100	3.4	4.5	3.0
10	280	8.6	200	5.1	100	3.5	4.8	3.0
11	300	9.0	200	5.2	100	3.8	5.0	2.9
12	300	9.1	200	5.4	100	3.8	5.5	2.9
13	300	9.5	200	5.3	100	3.9	3.6	2.9
14	300	9.5	200	5.2	100	3.8	3.6	2.9
15	300	9.5	210	5.0	100	3.5	3.4	2.9
16	290	9.2	220	4.8	100	3.4		2.9
17	260	9.1	230	4.4	100	3.0	3.2	3.0
18	240	9.0	340	---	100	2.4	3.5	3.0
19	240	8.9			---	1.5	3.1	3.0
20	240	8.0					2.8	2.8
21	250	7.6					3.0	2.8
22	260	7.5					3.5	2.7
23	280	7.3					4.0	2.7

Time: 150.0°E.
Sweep: 1.0 Mc to 16.0 Mc in 1 minute 55 seconds.

Table 30

Hobart, Tasmania (42.8°S, 147.4°E) February 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	260	6.5					2.7	2.7
01	260	6.0					2.1	2.7
02	260	5.5					2.1	2.7
03	260	5.3					2.1	2.8
04	250	4.8					2.1	2.8
05	250	4.3			---	E	2.0	2.9
06	250	5.3			110	2.0	2.0	3.1
07	240	6.0	240	4.0	100	2.7		3.1
08	300	6.6	220	4.5	100	3.0		3.0
09	300	7.0	220	4.7	100	3.3	3.0	3.1
10	300	7.4	200	4.9	---	3.3	3.8	3.0
11	320	7.4	200	5.3	---	---	3.9	(2.8)
12	340	7.6	200	5.2	---	---	3.8	2.8
13	330	(7.3)	---	5.3	---	---	3.9	(2.8)
14	320	(7.3)	200	5.3	---	3.5	4.0	(2.8)
15	300	(7.8)	220	5.0	100	3.3	3.3	(2.8)
16	290	(7.8)	220	4.6	100	3.3	2.9	(2.9)
17	280	(7.5)	230	4.3	100	3.0	2.0	(2.9)
18	250	(6.7)	250	---	100	2.5	1.9	(2.9)
19	250	(7.7)			---	E	3.6	(3.0)
20	240	(7.7)					3.8	(2.8)
21	240	7.4					3.8	2.8
22	250	7.0					3.3	2.8
23	260	6.8					3.5	2.7

Time: 150.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 31

Kiruna, Sweden (67.8°N, 20.5°E) January 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEe*	(M3000)F2
00	(345)	(3.6)					3.4	
01	330	(2.6)					2.5	
02	300	(2.8)					3.4	
03	300	(3.8)					3.7	
04	280	(4.3)					2.5	
05	275	(4.2)					1.7	
06	275	4.1						
07	270	3.6						
08	250	3.8						
09	240	4.6						
10	235	6.0			---	---		
11	226	(7.2)			---	---		
12	230	7.5			---	---		
13	220	(>8.6)			---	---		
14	220	7.2			---	2.1		
15	225	(6.3)						
16	216	5.2						
17	(230)	3.9						
18	(240)	3.6					2.5	
19	(280)	3.2					2.8	
20	(290)	3.3					3.7	
21	---	(2.4)					4.2	
22	---	(3.7)					4.1	
23	(340)	(3.6)					2.3	

Time: Local.
Sweep: 1.0 Mc to 16.0 Mc in 30 seconds.
*Combined Es and N1 (auroral) reflections.

Table 32

Hobart, Tasmania (42.8°S, 147.4°E) January 1950

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEe	(M3000)F2
00	260	6.7					2.8	2.8
01	260	6.0					2.1	2.7
02	260	5.3					2.0	2.8
03	260	4.8					3.0	2.7
04	270	4.7			---	B	2.2	2.8
05	260	4.3	---	---	---	1.6	2.1	2.8
06	250	5.5	250	4.5	100	2.5		3.0
07	300	6.0	240	4.6	100	3.0		3.0
08	340	6.6	220	4.8	100	3.2		2.9
09	330	7.1	210	5.1	100	3.5		2.8
10	370	7.2	200	5.4	100	3.8	4.0	2.8
11	360	(7.4)	(230)	5.4	100	3.8	3.9	2.8
12	380	7.4	(220)	5.5	100	2.9	4.0	2.7
13	350	(7.3)	---	5.4	100	---	3.9	(2.7)
14	360	(7.5)	200	5.4	100	(2.8)	2.8	(2.7)
15	350	7.2	220	5.2	100	3.5	3.7	2.7
16	340	7.4	220	5.0	100	3.3		2.8
17	310	7.7	230	4.7	100	3.0		2.8
18	290	7.6	240	4.2	100	2.6		2.9
19	250	7.5			120	2.0	3.9	2.8
20	250	7.4					4.0	2.8
21	250	(7.4)					4.4	(2.7)
22	270	(7.4)					2.6	(2.7)
23	270	7.2					3.2	2.8

Time: 150.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 33

Kiruna, Sweden (67.8°N, 20.6°E) December 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEe*	(M3000)F2
00	310	3.4					2.8	
01	340	4.6					3.5	
02	305	4.6					4.0	
03	300	4.9					3.2	
04	280	5.0					3.0	
05	260	4.6					2.4	
06	250	4.8					2.4	
07	250	4.5						
08	250	4.0						
09	240	4.8						
10	230	6.5						
11	230	8.0						
12	220	9.0						
13	210	9.0						
14	210	8.0						
15	210	7.4						
16	220	6.8						
17	220	4.4						
18	240	4.0						
19	240	3.7					2.9	
20	270	3.8					3.1	
21	270	4.0					3.1	
22	300	3.9					3.1	
23	320	3.4					3.8	

Time: Local.
Sweep: 1.5 Mc to 16.0 Mc in 30 seconds.
*Combined Es and N1 (auroral) reflections.

Table 34

Wakkanai, Japan (45.4°N, 141.7°E) December 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEe	(M3000)F2
00	340	3.4					2.3	2.6
01	330	3.6						2.5
02	320	3.5					2.0	2.6
03	300	3.5					2.4	2.7
04	300	2.4					1.8	2.8
05	290	2.4					1.6	2.8
06	290	3.0	---	---	---	B	2.0	2.7
07	270	6.0	---	---	100	1.6	2.2	3.0
08	220	9.9	220	---	100	2.2	2.6	3.1
09	250	12.0	240	---	100	2.6	3.0	3.0
10	260	(12.5)	---	---	100	3.0		(3.0)
11	260	12.1	240	---	100	3.0	3.3	3.1
12	260	11.1	240	---	100	2.1		2.1
13	260	11.4	255	---	100	2.8		3.0
14	250	11.0	245	---	100	2.5		3.1
15	250	9.8	---	---	100	2.2	2.5	3.1
16	240	8.2	250	---	100	1.8	2.4	(3.0)
17	230	6.9	250	---	---	B	2.2	3.1
18	260	6.4					2.1	2.0
19	260	2.9					2.1	2.0
20	290	3.4					2.0	2.8
21	300	3.2					1.9	2.6
22	230	3.4					2.3	2.6
23	320	3.4					2.0	2.6

Time: 135.0°E.
Sweep: 1.0 Mc to 14.0 Mc in 16 minutes, manual operation.

Table 35

Akita, Japan (39.7°N, 140.1°E) December 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEe	(M3000)F2
00	300	2.4					2.2	2.7
01	300	3.6					2.1	2.7
02	290	3.6					2.0	2.8
03	270	3.3					1.6	3.9
04	280	3.5						2.9
05	280	3.2					1.4	2.9
06	250	3.6			---	---		2.0
07	220	6.4	---	---	---	(1.8)	2.7	3.3
08	210	9.6	---	---	110	2.3	2.6	3.2
09	220	11.7	220	---	110	2.9		3.3
10	230	13.3	220	---	110	2.2		2.3
11	220	12.4	230	---	110	3.2	3.4	(2.3)
12	220	11.6	210	---	100	3.4	3.7	3.1
13	230	11.3	220	---	110	3.2	3.4	3.1
14	240	11.0	220	---	110	3.0	3.0	3.3
15	220	10.4	---	---	110	2.6	3.1	2.2
16	220	9.2	---	---	120	2.1	2.2	3.2
17	230	7.7	---	---	---	---	2.4	3.2
18	310	6.2					2.3	3.3
19	220	4.6					2.6	3.2
20	270	3.8					2.4	2.8
21	290	2.6						2.8
22	290	3.7					2.4	2.8
23	280	3.6						2.8

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 15 minutes, manual operation.

Table 36

Tokyo, Japan (35.7°N, 139.5°E) December 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	3.5					2.6	2.8
01	280	2.6					2.3	2.8
02	270	3.5					2.4	2.9
03	280	3.4					2.2	2.8
04	280	3.1					2.2	2.8
05	280	3.1					2.0	2.8
06	250	2.5			---	B	2.0	3.0
07	230	7.0	---	---	110	1.9	2.8	3.4
08	220	9.8	---	---	100	2.6	3.0	3.4
09	230	12.3	240	---	100	3.0	3.7	3.2
10	230	13.3	230	---	100	3.2	3.6	3.2
11	230	12.6	230	---	100	3.4	2.6	3.2
12	240	11.6	230	---	100	3.4	2.8	3.1
13	240	11.4	220	---	100	3.2	3.8	3.1
14	240	12.2	.230	---	110	3.2	3.6	3.1
15	230	10.8	230	---	100	2.8	2.4	3.2
16	220	9.0	---	---	100	2.1	3.2	3.2
17	220	7.8	---	---	100	1.3	3.2	2.2
18	230	7.0					3.2	3.3
19	220	5.5					2.8	3.2
20	230	4.3					2.8	3.1
21	250	2.8					2.6	2.9
22	280	3.7					3.4	2.8
23	270	3.7					2.4	2.8

Time: 135.0°E.
Sweep: 1.0 Mc to 17.0 Mc in 16 minutes, manual operation.

Table 37

Yamagawa, Japan (31.2°N, 130.6°E) December 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	280	4.1						2.9
01	290	3.9						2.8
02	290	3.6						2.9
03	280	3.3						2.8
04	290	3.2						2.8
05	320	3.1					2.0	2.6
06	300	3.4			---	E	2.4	2.8
07	290	5.0			---	1.5	2.3	2.9
08	250	9.4	250	---	120	2.2	2.8	3.2
09	250	11.1	250	---	120	2.9	3.5	3.2
10	250	12.5	230	---	110	3.3	3.8	3.1
11	260	13.2	230	---	110	3.4	4.2	3.1
12	270	13.2	240	---	110	3.6	4.4	3.0
13	270	13.3	230	---	110	3.6	4.6	2.9
14	290	13.4	240	---	110	3.3	4.6	2.9
15	280	13.1	250	---	110	3.1	3.9	2.9
16	250	12.4	250	---	110	2.8	3.4	3.0
17	240	11.0	---	---	130	2.1	3.4	3.1
18	220	9.0					3.4	3.1
19	240	8.2					3.2	3.1
20	230	7.3					3.0	3.0
21	240	6.5					2.6	3.0
22	260	4.8					2.2	2.9
23	290	4.6					2.0	2.8

Time: 135.0°E.
Sweep: 1.2 Mc to 18.5 Mc in 15 minutes, manual operation.

Table 38

Calcutta, India (22.6°N, 88.4°E) December 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	210	10.0				---		3.1
01		9.2				---		
02		8.0				---		
03	---	---				---		---
04		---				---		
05		---				---		
06	---	---				---		---
07		(9.1)				---		
08		(10.0)				2.5		
09	270	10.4				3.2		2.8
10		10.6				3.3		
11		11.0				3.5		
12	300	11.0				3.6		2.7
13		11.0				---		
14		10.8				---		
15	300	10.8				3.2		2.8
16		10.9				3.0		
17		10.8				2.5		
18	270	10.9				2.0		2.8
19		---				---		
20		10.8				1.5		
21	240	10.8				1.5		3.0
22		10.5				1.5		
23		10.3				---		

Time: Local.

Table 39

[illegible], Tasmania (42.8°S, 147.4°E) December 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	250	7.4					3.5	(2.8)
01	250	6.6					2.7	2.8
02	280	6.3					3.9	2.6
03	280	5.8					3.2	2.7
04	280	5.7					3.2	2.8
05	250	5.8			120	2.0	2.3	2.9
06	250	6.5	250	4.0	100	2.6		3.0
07	300	6.8	240	4.6	100	3.0		2.9
08	340	(7.2)	240	5.0	100	3.3		(2.8)
09	330	(7.6)	---	5.4	100	(3.5)	3.3	(2.6)
10	350	(7.6)	---	5.5	100	(3.8)	3.6	(2.7)
11	350	---	---	5.6	100	(3.8)	3.9	---
12	350	(7.5)	---	5.6	100	(3.8)	3.8	(2.7)
13	370	(7.8)	(240)	5.8	100	3.9	3.9	(2.7)
14	370	---	240	5.5	100	3.9	3.8	---
15	350	---	220	5.5	100	(3.8)		---
16	330	---	220	5.1	100	3.5		---
17	300	(7.8)	220	4.9	100	3.2		(3.0)
18	300	7.7	240	4.3	100	2.8		2.9
19	260	(7.7)			110	2.0		(2.8)
20	280	(7.8)					4.0	(2.7)
21	280	---					3.8	---
22	280	---					4.8	---
23	260	(7.7)					3.9	(2.8)

Time: 150.0°E.
Sweep: 1.0 Mc to 13.0 Mc in 1 minute 55 seconds.

Table 40

Kiruna, Sweden (67.8°N, 20.5°E) November 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs*	(M3000)F2
00	330	4.5					4.0	
01	335	(5.0)					4.0	
02	320	5.0					3.8	
03	310	5.0					3.2	
04	285	(4.8)					2.9	
05	270	5.0					2.5	
06	250	4.8						
07	260	4.4						
08	250	5.0						
09	240	6.0						
10	240	7.4			110	2.2		
11	230	(8.1)			110	2.3		
12	235	(8.0)			120	2.3		
13	225	(>8.0)			125	2.3		
14	220	(>8.0)			---	---		
15	225	(>7.0)						
16	225	(6.3)						
17	220	(>5.5)					2.8	
18	220	(4.8)					2.8	
19	260	4.5					2.5	
20	275	4.7					2.6	
21	310	4.4					4.1	
22	320	4.5					4.3	
23	340	4.5					3.9	

Time: Local.
Sweep: 1.5 Mc to 16.0 Mc in 30 seconds.
*Combined Es and N1 (auroral) reflections.

Table 41

Calcutta, India (22.6°N, 88.4°E) November 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	240	10.8				---		3.0
01		(10.2)				---		
02		(9.4)				---		
03	(210)	(8.0)				---		(3.3)
04		---				---		
05		(5.4)				---		
06	(210)	(7.0)				1.8		(3.5)
07		(9.2)				2.3		
08		(10.5)				2.8		
09	270	10.4				3.0		3.8
10		10.6				3.2		
11		(11.0)				3.2		
12	300	11.0				3.2		2.7
13		11.0				---		
14		11.0				---		
15	300	11.0				3.4		2.7
16		11.0				3.1		
17		11.0				2.8		
18	270	11.0				1.9		2.8
19		(11.0)				2.0		
20		(11.0)				1.6		
21	240	11.0				1.5		3.0
22		11.0				1.2		
23		10.8				---		

Time: Local.

Table 42

Kiruna, Sweden (67.8°N, 20.5°E) October 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE*	fEs	(M3000)F2
00	330	4.4					4.0	
01	335	4.5					3.6	
02	340	4.2					4.0	
03	320	4.2					3.7	
04	310	4.5					3.0	
05	280	4.5					2.4	
06	260	4.5			---	---	2.0	
07	250	5.2			115	1.9		
08	245	6.0			105	2.3		
09	240	7.0	---	---	110	2.5		
10	240	7.5	---	---	105	2.5		
11	240	7.2	250	---	110	2.7		
12	235	7.2	---	---	105	2.8		
13	235	(>7.5)	---	---	110	2.6		
14	235	(>7.5)	---	---	110	2.6		
15	240	6.7			110	2.4		
16	235	6.0			125	2.2		
17	250	5.3			---	---	2.6	
18	240	4.6					3.8	
19	250	4.5					3.8	
20	290	4.5					3.8	
21	270	4.5					3.7	
22	310	4.4					4.0	
23	(320)	4.6					3.8	

Time: Local.
Sweep: 1.5 Mc to 16.0 Mc in 30 seconds.
*Combined Es and N1 (auroral) reflections.

Table 43

Calcutta, India (22.6°N, 88.4°E) October 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs	(M3000)F2
00	(240)	(8.5)				1.0		(3.0)
01		(8.5)				---		
02		(8.2)				---		
03	---	---				---		---
04		---				---		
05		---				---		
06	---	---				---		---
07		---				---		
08		(9.0)				3.0		
09	(260)	(10.0)				3.1		(3.0)
10		(10.6)				3.5		
11		(11.0)				3.8		
12	(300)	(11.0)				---		(2.7)
13		(11.0)				---		
14		11.2				---		
15	(270)	11.0				---		2.7
16		11.0				3.6		
17		10.8				3.2	(4.1)	
18	270	10.8				2.6		2.8
19		(10.0)				---		
20		(10.2)				---		
21	(240)	(9.0)				---		(2.8)
22		9.5				1.2		
23		9.0				1.1		

Time: Local.

Table 44

Kiruna, Sweden (67.8°N, 20.5°E) September 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs*	(M3000)F2
00	300	6.0					3.5	
01	310	6.2					3.4	
02	300	5.0					3.7	
03	290	4.8					2.5	
04	280	4.8					1.8	
05	265	4.7					1.6	
06	250	6.5			115	1.9		
07	240	5.9	---	---	110	2.4		
08	240	6.0	230	---	105	2.7		
09	230	6.2	230	---	106	3.0		
10	230	6.0	226	4.6	105	3.1		
11	250	(6.2)	220	5.0	100	3.2		
12	230	6.5	220	---	105	3.2		
13	235	(6.5)	220	6.0	100	3.2		
14	230	(>8.8)	220	5.0	105	3.2		
15	236	6.8	220	---	110	2.8		
16	240	6.4	---	---	110	2.6		
17	245	6.5	---	---	115	2.4		
18	240	6.0			120	2.0	2.3	
19	240	6.0					2.0	
20	240	5.6					2.6	
21	255	5.6					3.1	
22	275	(>6.0)					3.4	
23	305	5.0					3.4	

Time: Local.
Sweep: 1.5 Mc to 16.0 Mc in 30 seconds.
*Combined Es and N1 (auroral) reflections.

Table 45

Kiruna, Sweden (67.8°N, 20.5°E) August 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs*	(M3000)F2
00	270	6.4					3.6	
01	280	5.0					2.4	
02	275	5.0					2.3	
03	270	4.6	---	---	---	---	2.4	
04	265	4.9	---	---	---	---		
05	250	5.0	250	3.6	100	2.2		
06	265	5.4	230	4.0	100	2.6		
07	290	(6.0)	220	4.1	100	2.6		
08	320	(>6.0)	220	4.4	100	2.8		
09	305	6.2	220	4.7	100	3.0	3.2	
10	310	6.3	200	4.7	100	3.2	3.4	
11	(320)	(>6.0)	200	4.7	100	3.2		
12	(300)	(6.2)	206	4.9	100	3.2	3.5	
13	(270)	(>6.2)	200	4.8	100	3.3		
14	260	(8.3)	210	4.8	100	3.2		
15	(230)	(>6.3)	210	4.7	100	3.2		
16	225	(>6.3)	220	4.3	100	3.0		
17	230	6.2	---	4.0	100	2.7		
18	240	(>6.0)	---	---	110	2.4	3.2	
19	240	(>5.8)	---	---	115	2.1	2.8	
20	250	5.6	---	---	---	---	2.3	
21	260	5.0					2.6	
22	275	5.0					3.4	
23	310	5.0					3.2	

Time: Local.
Sweep: 1.5 Mc to 16.0 Mc in 30 seconds.
*Combined Es and N1 (auroral) reflections.

Table 46

Kiruna, Sweden (67.8°N, 20.5°E) July 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs*	(M3000)F2
00	270	(>6.0)					3.1	
01	270	(6.6)					3.6	
02	260	(6.5)	---	---	---	---	3.3	
03	260	5.8	240	3.2	116	1.8	2.7	
04	286	(>5.8)	230	3.8	100	2.2	2.6	
05	315	5.8	215	4.0	100	2.4		
06	(340)	6.0	210	4.3	100	2.7		
07	(325)	6.3	200	4.6	100	2.8		
08	(335)	6.4	200	4.7	100	3.1	3.4	
09	(350)	6.4	200	4.8	100	3.2	3.8	
10	(320)	6.6	200	4.8	100	3.3	3.8	
11	(340)	6.6	195	4.9	100	3.4	3.8	
12	(345)	(>6.5)	195	5.0	100	3.3	3.9	
13	---	6.6	200	4.9	100	3.4	3.5	
14	---	6.6	200	4.9	100	3.3		
15	---	6.4	200	4.8	100	3.3		
16	(310)	6.2	200	4.7	100	3.2		
17	(235)	6.0	200	4.7	100	3.0	3.6	
18	230	(>6.0)	216	4.3	100	2.8	3.7	
19	235	8.0	235	4.0	100	2.4	3.3	
20	240	6.0	---	---	110	2.0	2.6	
21	250	(5.8)	---	---	---	---	2.6	
22	260	5.9			---	---	2.8	
23	270	(>6.6)					3.8	

Time: Local.
Sweep: 1.5 Mc to 16.0 Mc in 30 seconds.
*Combined Es and N1 (auroral) reflections.

Table 47

Kiruna, Sweden (67.8°N, 20.5°E) June 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs*	(M3000)F2
00	(270)	(>5.0)					3.6	
01	300	(>5.6)					3.7	
02	270	6.6	---	---	---	---	3.2	
03	320	(>6.5)	240	3.6	110	2.2	3.0	
04	345	5.8	220	3.9	100	2.4		
05	325	6.0	215	4.2	100	2.6		
06	340	(>6.0)	210	4.5	100	2.9		
07	(350)	6.2	200	4.6	100	3.0		
08	(350)	(>6.5)	200	4.8	100	3.2		
09	(346)	(>6.6)	200	4.9	100	3.3		
10	350	6.7	200	5.0	100	3.3		
11	(340)	(>6.6)	200	6.0	100	3.3		
12	(350)	6.8	200	6.1	100	3.3		
13	(355)	6.8	200	5.0	100	3.4		
14	(345)	6.7	200	5.0	100	3.3		
15	(350)	6.3	200	5.0	100	3.3		
16	(220)	6.3	200	4.8	100	3.2		
17	(210)	6.1	200	4.8	100	3.0		
18	220	6.0	220	4.6	100	2.8	3.2	
19	230	6.0	216	---	100	2.6	3.0	
20	240	6.0	---	---	100	2.4	3.6	
21	250	6.0	---	---	100	1.9	3.2	
22	270	6.0	---	---	---	---	3.1	
23	280	5.6	---	---	---	---	3.9	

Time: Local.
Sweep: 1.5 Mc to 16.0 Mc in 30 seconds.
*Combined Es and N1 (auroral) reflections.

Table 48

Kiruna, Sweden (67.8°N, 20.6°E) May 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs*	(M3000)F2
00	280	(>5.8)					3.2	
01	(270)	6.8					2.0	
02	280	6.0	---	---	---	---	2.2	
03	290	5.8	---	3.4	---	---	1.9	
04	340	6.2	230	3.9	106	2.2		
05	306	8.3	230	4.2	100	2.3		
06	(315)	7.0	220	4.7	100	2.8		
07	(310)	6.5	215	4.9	100	3.0		
08	(315)	6.8	210	4.9	100	3.2		
09	(320)	7.1	205	5.1	100	3.2		
10	---	(>7.0)	200	5.0	100	3.4		
11	(325)	7.8	205	6.3	100	3.4		
12	(320)	7.7	200	5.2	100	3.3		
13	(310)	7.5	200	5.4	100	3.3		
14	---	7.2	210	6.2	100	3.3		
15	(220)	7.3	206	6.0	100	3.2		
16	(225)	7.4	215	5.0	100	3.2		
17	(220)	7.2	210	4.6	100	3.0		
18	230	7.0	---	---	100	2.6		
19	230	6.8	---	---	100	2.4	2.7	
20	240	6.6			110	2.1	3.0	
21	250	6.6			---	---	3.1	
22	270	(6.4)					3.2	
23	270	5.6					2.1	

Time: Local.
Sweep: 1.5 Mc to 16.0 Mc in 30 seconds.
*Combined Es and N1 (auroral) reflections.

Table 49

Kiruna, Sweden (67.8°N, 20.5°E) April 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs*	(M3000)F2
00	290	6.1					2.2	
01	300	6.0					2.4	
02	300	5.8					3.1	
03	300	5.9					1.9	
04	270	6.1	---	---	---	---	1.6	
05	245	6.2	---	---	105	1.9		
06	235	6.8	---	---	105	2.3		
07	220	(>6.8)	225	4.6	100	2.6		
08	220	(7.2)	220	4.9	100	2.6		
09	215	(7.4)	220	5.0	100	3.1		
10	(220)	(>8.1)	210	5.2	100	3.2		
11	220	(7.8)	210	5.2	100	3.3		
12	(210)	(>8.0)	210	5.4	100	3.3		
13	(210)	8.4	205	5.4	100	3.2		
14	(215)	(>8.4)	205	---	100	3.2		
15	220	(>8.4)	210	---	100	3.2		
16	220	(>8.0)	220	---	100	2.9		
17	225	(>7.8)	---	---	100	2.6		
18	235	(>7.0)	---	---	110	2.3		
19	235	(>7.0)	---	---	120	2.0		
20	240	(>7.0)						
21	240	(7.0)					2.2	
22	270	(6.3)					2.4	
23	280	(6.4)					3.2	

Time: Local.
Sweep: 1.5 Mc to 16.0 Mc in 30 seconds.
*Combined Es and N1 (auroral) reflections.

Table 50

Kiruna, Sweden (67.8°N, 20.5°E) March 1949

Time	h'F2	foF2	h'F1	foF1	h'E	foE	fEs*	(M3000)F2
00	390	5.4					3.6	
01	300	5.4					4.0	
02	320	5.1					3.8	
03	320	5.0					3.1	
04	300	5.0					2.0	
05	260	(>5.0)						
06	260	5.6			---	---	1.6	
07	240	6.0			110	1.8		
08	230	(>6.4)	---	---	110	2.2		
09	230	(7.5)	---	---	105	2.6		
10	220	(>9.0)	230	---	100	2.7		
11	220	(8.6)	220	---	100	2.8		
12	220	(>9.0)	220	---	100	2.9		
13	220	(9.8)	220	---	100	2.9		
14	220	(>9.2)	---	---	100	2.8		
15	220	(>8.0)	---	---	105	2.6		
16	220	(8.0)	---	---	110	2.4		
17	230	(>8.0)			120	2.1		
18	240	(>7.0)			---	---	2.4	
19	240	(5.5)					3.8	
20	240	5.7					3.0	
21	240	6.0					3.5	
22	260	6.2					3.5	
23	300	5.6					3.2	

Time: Local.
Sweep: 1.5 Mc to 16.0 Mc in 30 seconds.
*Combined Es and N1 (auroral) reflections.

TABLE 51

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

h'F2 (Characteristic), Km (Unit), June (Month), 1950

Observed at Washington, D. C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: B.E.B., By.H., McC.

Calculated by: By. H., B.E.B., McC., D.S., A.H.M.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	280	280	290	300	290	310	300	400	370H	(470)H	450	490	340	370	400	360	330	340	290	260	250	280	(240)S	300
2	(280)S	290	260	270	250	300	280	340	380	330	330	320	380	400	400	330	330	300	280	230	240	240	270	300
3	280	270	270	280	270	260	300	300	330	320	410	400	410	350	350	310	320	320	280	250	230	250	280	300
4	(290)A	280	260	250	270	290	300	(380)H	(370)H	390	430	400	400	380	330	360	310	300	280	250	220	270	270	270
5	290	270	260	270	(300)A	270	250	270	290	310	320H	390	370	350	340	360	370	300	290	(240)A	230	290	300	300
6	300	300	280K	270K	300K	280K	GK	500K	550K	GK	410K	420K	530K	490K	490K	480K	390K	370K	320K	270	230	260	250	280
7	280	290	270	270	270	260	250	320	320	270	330	(330)A	350	350	370	320	340	300	300	260	A	A	(300)A	[300]A
8	(290)A	270	250	270	300	(280)A	320	290	310	300	320	350	360	390	340	350	320	320K	290K	270K	240K	(260)SK	260K	280K
9	(300)SK	300K	280K	270K	290K	330K	330K	500K	GK	510K	450K	390K	430K	510K	(450)HK	470HK	410K	370K	340	270	250	270	290	(300)S
10	(300)S	290	270	(290)S	(300)S	290	370	310	410	380	410H	400H	430H	450	400	370	M	M	A	(230)A	(260)A	260	280	(300)A
11	280	290	(290)A	280	290	280	300	300	390	460	470H	470	540H	530H	460	410	380	A	A	A	270	(300)A	290	(290)S
12	280	280	260	270	(270)S	[280]A	280	380	360	280	330	380	340	410	370	380	340	330	290	270	(240)A	290	300	290
13	290	(290)S	(290)A	A	A	250	[240]A	(240)A	280	320	340	310H	370	360	380	390	350	300	290	270	(260)A	280	290	310
14	290	270	270	270	250	230	230	330	300	320	370	370	330H	320	330	310	310	310	290	260	250	(260)S	270	260
15	[300]A	(270)A	[280]A	(290)A	(290)A	250	280	270	290	300	350	330	320	330	330	320	320	300	A	A	A	A	250	260
16	(270)S	260	230	230	(270)S	280	280	290	290	330	320	310	370	340	380	[360]M	340H	300	310	270K	250K	250K	(270)SK	(290)SK
17	(270)SK	(290)SK	290K	250K	260K	270K	300K	430K	410K	400K	(500)HK	480K	600K	620K	430K	460K	430K	350K	330K	[300]AK	(260)AK	260	(270)A	280
18	(280)S	(250)S	260	(320)S	(280)S	[280]A	290	320	(320)H	320	380	430	(450)H	450	420	430	430	370	310	260	250	260	270	(290)S
19	290	290	230	230	250	240	230	[260]A	300	300	310	360H	330	340	330	360	330	320	300H	270	(250)S	[260]A	(270)S	(270)S
20	(270)S	(280)A	250	230	[240]S	250	230	260	(280)H	[320]C	350	370	370	340	380	470	380	350	A	A	(270)A	(270)S	(270)S	(280)S
21	270	280	(270)A	(250)A	(250)S	(240)S	260	350	340	330	420	440	400	450	440	380	420	350	320	250	230	250	240	(260)S
22	(250)S	(270)S	(260)S	(250)S	280	[360]A	(450)A	(300)A	[350]M	400	370	430	400	(400)A	410	530	380	400	[340]A	(280)A	(270)A	(270)A	(270)S	(300)A
23	(300)S	(300)S	[300]A	(300)A	270	[280]C	300	[360]C	(430)S	340	320	350K	380K	340K	340K	380K	350K	320K	300K	250K	240K	240K	(270)SK	(250)SK
24	(300)SK	(350)SK	(310)SK	(280)SK	(330)SK	290K	[570]AK	760K	GK	760K	640K	350K	510K	410K	430K	420K	400K	370K	310K	270K	230K	(280)SK	270K	280K
25	290K	230K	(250)AK	300K	(320)SK	(270)AK	GK	580K	750K	600K	(520)FK	490K	400K	390K	410K	420K	400K	340	250	260	270	260	260	(220)S
26	(300)S	(280)S	(230)SK	260K	290K	[340]CK	400K	400K	450K	460K	480K	470K	[550]SK	630K	490K	430K	300K	370K	300	270	240	260	[280]A	290
27	(280)S	280	270	260	(270)S	240	270	300	270	310	310	350	350	[360]A	370	340	310	300	280	A	A	(270)S	300	300
28	300	300	(290)A	300	(270)A	270	(280)A	300	320	310	300	360	350	330	340	330	320	290	280	[260]A	250	(270)A	(230)A	[250]A
29	(270)A	270	250	230	(270)A	270	[280]A	300	330	310	310K	350K	380K	400K	350K	330K	320K	310K	[300]MK	280HK	250K	280K	290K	(360)SK
30	300K	(310)SK	310K	(300)SK	(330)SK	290K	GK	500K	450K	500HK	480HK	GK	530HK	490K	520K	420K	410K	370K	310K	250HK	280K	(270)AK	280	(280)S
31																								
Median	(290)	280	270	270	270	280	300	320	340	330	370	380	380	390	380	380	340	320	300	260	250	260	270	290
Count	30	30	30	29	29	30	30	30	30	30	30	30	30	30	30	30	29	28	26	26	27	28	30	30

Sweep 1.0 Mc to 25.0 Mc in 30 seconds (June 1 through 1200, June 7), in 15 seconds (1215, June 7 through June 30).

Manual ☐ Automatic ☒

U S GOVERNMENT PRINTING OFFICE 1946 O - 702519

Form adopted June 1946

TABLE 52

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C

IONOSPHERIC DATA

foF2 (Characteristic), Mc (Unit), June (Month), 1950

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by B.E.B., By.H., McC.

Calculated by By.H., B.E.B., McC., D.S., A.H.M.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	6.0	5.6F	(5.3)S	5.3	(4.9)JS	(5.1)S	5.3	5.6	58	(5.5)A	(6.0)S	6.3	69	(71)JS	(69)S	(7.1)S	(7.2)S	7.0	7.2	(77)S	76	7.6	6.6	6.5
2	(5.9)S	(5.8)S	5.7	4.9	40	43	50	(5.4)H	(5.8)H	6.4	6.7	(6.9)H	(63)S	(6.7)S	72	76	77	(7.9)JS	(82)S	7.6	7.1	7.0	(5.6)S	(6.1)S
3	(6.0)S	5.4	4.9	4.7	4.5	4.8	52	(5.5)H	(5.3)H	5.8	(6.0)F	(6.8)S	(69)S	7.6F	7.6	76F	76	(7.2)JS	7.6	(7.1)S	67F	(6.4)SF	5.8F	(57)JS
4	6.0	5.8	5.3	(4.8)S	44	4.7	54	(5.6)H	(58)H	61	6.1	6.6	6.8	7.2	7.0	7.0	(7.1)JS	7.4	(76)S	7.8	7.0	6.6	6.8	64
5	5.9	5.7	5.2	4.7	4.7	4.5	55	(59)S	7.2	6.8	(6.6)H	71	75	7.6	7.5	75	75	7.6	7.8	78	6.9F	72	(68)S	64F
6	5.8	5.8F	K(5.6)JF	K(4.2)JF	K(3.8)JF	3.4FK	F<4.0GK	4.4FK	49FK	<4.6GK	5.8K	K(5.8)JF	56K	56K	5.7K	5.7K	K(62)JS	(6.4)SK	65K	(66)S	(67)S	(65)S	(6.1)S	(5.5)SF
7	(5.0)SF	(4.0)SF	(3.7)SF	3.3F	3.0F	39F	4.9F	6.1	63	7.0	(68)S	[68]A	69	7[illegible]	7.0	(72)S	72	7.1	75	(7.6)S	75	7.0	6.6F	(6.0)JF
8	5.8F	5.6F	4.7F	4.4F	42F	44F	58FZ	7.2	7.3	(7.4)H	(7.8)J	7.4F	7.6	7.5	7.6	7.7	7.8	84K	89K	(9.0)SK	8.7K	84K	7.6K	7.0K
9	6.3K	(5.5)SK	(6.0)HK	(5.0)FK	4.4FK	4.2K	K(44)SH	(4.8)KK	<45GK	52K	5.6FK	5.9FK	5.8FK	58K	K(60)SJ	6.0K	64K	(6.2)SK	68	6.8	66	6.4F	5.8F	53F
10	(5.1)SF	5.0F	4.7F	(36)SF	(3.3)SF	3.8F	4.9F	54F	(5.2)F	56F	(60)SH	6.1F	6.2H	63	(66)S	(70)S	M	M	(70)S	(73)S	(6.6)JS	(6.8)SF	(60)SF	(58)SF
11	(5.7)SF	(4.9)SF	(3.9)SF	3.5F	31F	(4.0)S	5.2F	56	56	(5.6)JS	(5.4)H	5.4	(5.4)F	5.5H	5.6	(6.0)S	6.0	63	(6.4)A	(58)S	(60)SF	(6.2)JF	6.2V	60F
12	5.6F	5.0F	4.4F	3.7F	3.2F	(4.1)SF	(51)SF	56F	(69)SF	73	(7.5)S	74	7.7	(7.0)JH	7.3	(7.3)S	7.5	78	7.8	(75)S	66	(62)SF	6.0F	5.8F
13	5.7F	(5.5)SF	(5.0)SF	(4.3)S	(36)S	(4.3)S	54	(6.3)H	7.8	(74)H	(7.6)S	(7.0)SH	(7.1)S	72	(6.9)JS	6.9	70	7.3	7.4	(7.2)S	69F	6.8F	67F	6.4F
14	6.3	5.9F	5.3F	5.0F	4.6F	[51]SF	5.6F	66	77	70	74	7.8	7.6	(79)S	8.0	8.0	8.0	76	74	(7.7)S	78	77	7.4	7.0
15	6.8	6.0	55	5.3	50	5.3	7.0	7.5F	88	(8.8)JS	9.1	9.2	92	(8.8)JS	8.4	7.9	7.9	7.6	(7.4)S	(7.6)JS	(78)JS	(75)JS	(71)JS	68
16	6.6	6.5	5.7	4.9	44	49	(6.5)S	7.2	78	8.2	(8.5)S	8.7	8.3	8.4	7.7	[7.9]M	80	(78)S	8.2	(8.4)SK	(9.0)SK	(78)SK	(72)SK	K(7.0)SJ
17	K(7.0)SJ	(6.1)FK	(6.0)FK	(5.8)SK	5.4K	K(4.7)JS	51K	(5.5)SK	5.9K	6.1K	(5.4)JK	K(5.6)JS	(55)JK	5.4K	(6.0)SK	5.8K	59K	6.1K	6.3K	6.4K	6.4K	66	(59)S	(5.8)S
18	(6.0)S	(5.1)SF	(4.5)S	(3.8)S	3.3	(38)SJ	54	6.2	[6.3]N	64	(5.8)JH	(5.8)JS	58	5.9	6.1	(5.9)S	6.0F	6.6	6.7F	6.6F	(6.8)SF	(6.7)SF	(6.5)SF	(6.0)SF
19	(5.9)S	5.8	56	(4.5)SF	3.6F	4.5	5.6	(64)J	(74)J	7.3V	7.6	75	(78)S	7.6	7.4	7.2	7.1	7.1	(7.2)S	(8.0)S	(81)S	(74)JS	(69)JS	(6.6)S
20	(6.4)S	(6.1)S	(5.9)S	4.8F	(4.4)S	50	(62)S	7.4	[74]N	[7.5]C	7.7H	(74)H	6.8	(64)SV	(6.1)S	(6.1)JS	62	(6.5)S	(68)S	(6.9)S	(7.1)S	(7.2)S	(68)PS	(6.5)S
21	6.1	(5.9)SF	5.6F	(5.3)VF	4.1F	4.6	5.7	(6.0)S	6.6	(6.1)S	62	(60)SV	61	(6.0)J	(6.2)S	6.4	63	6.4	6.7	72	(69)S	(7.0)JS	(63)S	(5.9)S
22	(5.6)S	5.4F	5.2F	4.2F	(40)JS	(4.1)JS	(47)JS	56	[5.8]M	(5.9)JS	(6.4)SH	56	(62)S	(6.0)JS	(60)JS	5.8	62	(6.1)JS	(6.2)S	6.4	70	(71)S	(59)JS	(5.7)FS
23	5.5F	(5.2)SF	(4.6)SF	4.6F	4.0F	[45]C	(4.9)JS	[5.5]C	(6.1)SV	7.4	(7.9)S	75K	80K	8.4K	84K	8.3K	9.5K	K(97)JS	(10.6)SK	(91)SK	(84)SA	(7.8)SK	(7.0)SK	(6.0)SK
24	K(48)SF	K(3.4)SF	K(3.1)FV	[2.9]FK	(2.6)FK	K(3.8)SF	(4.0)FK	(44)SK	<4.2GK	4.7K	(5.7)HK	(5.5)SK	K(5.5)SH	(6.1)SK	62K	6.4K	6.6K	6.7K	(7.2)SK	6.9K	(66)S	6.8FK	K(6.1)SF	K(56)SF
25	4.9FK	K[4.2]SF	K(3.4)SF	[2.8]FK	(2.1)FK	30FK	K<(3.3)SG	[4.0]FK	(4.6)FK	4.8K	(5.1)FK	(5.6)FK	(5.7)AK	(5.9)SK	(59)JK	(6.2)KA	(6.1)SK	6.8V	66F	6.7F	(7.2)SF	71F	(7.2)SF	6.6F
26	(6.0)JS	(58)SF	K(5.3)SF	39FK	3.4FK	[39]CK	4.4K	(4.9)SK	(5.1)SK	(5.4)SK	(54)SK	(5.3)SK	[56]SK	5.5K	5.7K	5.8K	6.0K	6.4K	(69)S	69	(6.7)S	(6.4)S	(5.9)S	58V
27	5.6	5.4	4.9	(4.5)S	(4.1)S	(4.8)S	(5.8)S	7.0	77	7.7	(7.9)S	7.9	(8.2)FV	(82)A	7.8	7.9	(81)S	(8.1)S	(8.3)S	(8.0)S	(7.8)S	(7.0)S	(6.6)SF	(6.5)SF
28	(6.3)S	(5.7)JS	(5.3)SF	5.4F	4.8	(4.8)S	(5.2)SF	6.5	7.1	7.0F	7.7	7.2	7.4	7.4	7.4	7.7	8.0	7.8	(7.7)S	(79)S	(8.2)S	(7.8)S	(6.7)S	(6.2)SF
29	(6.0)SF	5.4F	4.9F	(4.4)SF	3.8F	(43)JS	(5.8)S	(6.1)SH	(69)S	(72)SH	7.8K	8.0K	K(8.6)JS	9.0K	99K	(10.2)SK	10.8K	K(112)SP	K[10.6]M	(100)SK	K(9.0)SP	K(7.8)SF	K(6.3)SF	3.8FK
30	K(2.5)SF	(2.8)FK	K(2.1)SF	K[1.9]SF	(1.7)FK	3.0FK	K<38FG	44FK	4.8FK	4.7FK	4.8FK	<4.5GK	5.0FK	5.4HK	5.3FK	5.8K	K(58)JS	K(6.0)JS	62K	6.1FK	K(6.0)SF	5.8FK	5.6F	(5.1)SF
31																								
Median	5.9	5.6	5.2	4.5	4.0	4.4	5.2	5.6	6.2	6.4	(6.5)	6.8	6.8	7.0	70	7.0	7.1	7.1	7.3	(7.4)	(7.0)	(7.0)	(6.6)	(6.0)
Count	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	29	29	30	30	30	30	30	30

Sweep: 1.0 Mc to 25.0 Mc in 30 seconds (June 1 through 1200, June 7), in 15 seconds (1215, June 7 through June 30).

Manual ☐ Automatic ☒

TABLE 53

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Form adopted June 1946

IONOSPHERIC DATA

foF2 (Characteristic), Mc (Unit), June (Month), 1950

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: B.E.B., By.H., McC.

Calculated by: B.E.B., By.H., McC., D.S., A.H.M.

Day	0030	0130	0230	0330	0430	0530	0630	0730	0830	0930	1030	1130	1230	1330	1430	1530	1630	1730	1830	1930	2030	2130	2230	2330
1	5.8F	5.4F	(5.0)S	(5.2)S	4.7	5.4	5.2	(5.4)Z	(5.8)S	5.4	(6.2)A	(6.8)S	(7.1)S	(7.2)S	(6.9)S	(7.2)S	(7.1)S	(7.1)S	(7.1)S	(7.9)S	(7.6)S	(7.2)S	6.6	(6.0)JS
2	6.4	(5.7)S	(5.3)S	4.4	4.0	4.8	[5.2]N	5.7	(5.9)H	6.5	(6.7)H	(6.6)S	(6.5)S	7.0	7.6	7.7	7.8	8.1	8.1	(7.1)S	(7.0)S	(6.5)JS	6.3	(6.0)S
3	(5.8)S	5.1	4.7	4.5	(4.4)S	5.1	5.6	(5.6)J	5.9	6.0H	6.6	(7.0)JS	(7.0)S	7.6	7.6	7.6	(7.0)SF	7.6	(7.5)S	6.9	(6.8)SF	5.8F	(5.8)SF	(6.0)S
4	(5.8)JS	(5.5)S	5.4Z	4.6	4.3	5.1V	5.7	6.0	(6.2)S	6.0	6.7	6.6	6.9	7.2	7.0	7.1	7.2	7.5	7.7	7.4	6.7	6.9	6.5	6.1
5	(5.9)S	(5.6)JS	5.2	4.8	4.5	5.0	5.7	(6.8)S	7.2	6.8	7.1	7.4	7.8	7.8	7.4	7.4	7.7	7.7	7.9	7.5	7.0	(7.1)S	(6.7)S	6.1
6	(5.8)JF	5.7F	5.0FK	[4.0]FK	3.0FK	(3.9)FK	4.4FK	4.6FK	5.0FK	5.1FK	(5.8)SK	5.8FK	5.7K	5.7K	5.8K	K(6.0)JS	K(6.2)JS	6.4K	(6.6)SK	6.9	(6.6)S	(6.3)S	(5.8)S	(5.0)SF
7	[4.5]SF	4.0F	(3.5)SF	3.2F	3.2F	4.4F	5.4F	(6.1)JS	6.4V	(6.5)H	(6.5)HS	(6.6)JS	7.1	7.0	7.2	(7.1)S	7.1	(7.1)J	7.6	7.5	7.2	6.8F	6.5F	(6.0)SF
8	5.7F	5.2F	4.6F	4.4F	4.0F	5.0F	6.4F	7.1	7.7	7.5	(7.5)H	(7.6)SH	7.4	7.7	7.6	7.7	8.0	8.8K	9.0K	9.0K	8.4K	8.2K	(6.6)HK	(6.7)SK
9	(6.0)SK	5.5VK	5.3FK	4.6FK	4.1K	4.0K	4.7K	(5.0)SK	5.1K	5.4FK	5.8FK	[5.8]NK	[5.8]SK	6.0K	(6.0)SK	6.2K	6.6K	6.4K	(7.2)S	6.4	6.7V	6.3F	5.4F	(5.0)SF
10	(5.2)SF	5.0F	(3.9)SF	(3.3)SF	3.3F	4.3F	5.1F	5.1F	5.8F	5.7F	6.4F	6.2	6.4	(6.6)S	6.9	M	M	M	(7.9)S	(7.0)S	(6.6)JF	(6.4)SF	(6.2)SF	F(5.6)JS
11	(5.3)SF	(4.5)SF	3.7F	3.3F	3.3F	(4.7)S	5.4F	5.7	5.5	(5.7)JS	5.7	(5.3)F	(5.4)H	5.6F	(5.8)JS	(6.0)SF	6.2F	6.2	6.4	5.7F	(6.0)JF	(6.2)SF	(6.2)SV	(5.8)SF
12	5.2F	4.8F	4.0F	3.4F	3.3F	4.4F	5.0F	6.1F	(7.7)V	6.8	(7.3)H	7.3	(7.1)H	7.2	(7.3)S	7.6	7.7	8.0	7.8	(7.1)S	6.2F	(6.0)SF	6.0F	5.8F
13	(5.4)S	5.3F	4.8F	(4.1)SF	(3.8)A	4.7	(6.0)HJ	7.1	7.8Z	7.6	7.6	(7.2)H	7.2	(7.0)S	(6.9)JS	7.2	(7.2)S	7.3	7.4	7.1	7.0	6.7F	6.6F	6.3F
14	6.4	5.8F	(5.2)SF	5.0F	4.3F	5.0F	5.6F	7.0F	7.4H	7.2	7.6	7.6	(7.6)H	8.0	7.9	8.0	7.7	7.4	(7.4)SZ	7.6	8.0	(7.6)S	(7.3)S	(6.8)S
15	6.6	5.8	(5.2)S	5.1F	5.0F	(6.2)S	7.3F	8.0	9.0	[9.0]A	9.0	(9.0)H	(9.2)S	8.5	(8.2)SP	(8.0)JS	7.7	7.4	(7.7)S	(7.8)S	(7.8)JS	7.4	(7.0)S	(6.6)S
16	6.6	(6.1)S	5.3	4.5	4.4	5.4	(6.6)JS	7.6	8.0	8.2	8.6	(8.5)S	8.4	7.9	(8.0)SJ	(7.8)J	8.0	(8.0)SJ	(8.4)SJ	K(8.8)SJ	K(8.4)SJ	(7.4)SK	K(7.0)SV	(6.9)SK
17	(6.5)SK	5.9FK	(5.9)FK	(5.7)VK	K(5.4)SV	(4.8)SK	5.3K	K(5.7)SJ	5.7K	(5.8)JK	(5.6)SK	5.6K	5.2K	5.6K	[5.9]SK	(5.6)JK	K(6.0)JS	6.2K	[6.3]AK	6.4K	(6.0)SK	(6.2)S	(5.8)S	(5.7)S
18	(5.4)FS	(4.6)JS	(3.9)S	3.6	3.4	(4.5)JS	(6.0)JS	(6.4)JH	(5.8)H	(5.9)JS	(6.1)JS	6.0	5.7	6.1	6.0	(6.0)JS	6.2F	6.5F	6.6F	(6.8)SF	(7.0)SF	(6.6)SF	(6.4)SF	(6.1)S
19	(5.4)SF	(5.6)SF	(5.2)S	(3.9)JF	(3.7)JF	5.0	6.2	7.4	8.0	7.4	7.4	6.6	7.6	7.7	(7.5)S	7.2	7.2	(7.2)S	(7.6)S	(8.2)S	(7.6)JS	(7.2)JS	(6.8)S	(6.4)S
20	(6.1)S	(6.1)S	(5.2)S	(4.3)JS	4.4	(5.9)SJ	7.1	7.2	(7.6)H	(7.4)S	[7.6]S	7.2	(6.8)S	(6.8)J	(6.0)JP	(6.1)JS	6.3	6.7	6.8	(7.0)S	(7.3)S	(7.1)S	(6.6)S	(6.3)S
21	(5.9)JS	5.8F	(5.5)F	(4.3)F	(4.1)JF	5.2	6.0	6.3	6.6	6.0	(6.3)S	(6.2)S	6.1	(5.9)S	6.5	6.6	(6.2)S	6.7	(6.9)JS	(6.8)SV	(6.8)JS	6.7F	(6.2)JS	(5.7)S
22	(5.2)S	(5.4)F	4.9F	(4.0)SF	(3.9)S	(4.5)S	(5.2)JS	(5.3)S	[5.8]M	(6.3)S	(6.2)S	(5.9)S	(5.8)JS	(6.0)JS	[5.9]S	(6.0)JS	6.2	(6.0)JS	6.5	6.4	[7.0]S	(6.8)S	(5.8)F	(5.6)SF
23	[5.4]SF	4.9F	(4.5)F	(4.2)F	(4.0)SF	4.7	C	C	6.6	7.6	7.6	7.8K	8.2K	8.6K	8.4K	8.6K	9.8K	(9.8)SK	(9.8)SK	(8.8)SK	K(8.4)JS	K(7.8)JS	(6.9)SK	5.2FK
24	K(3.9)JF	3.2FK	K(3.6)SF	K(3.2)FV	K(2.9)SF	(3.6)FK	(3.6)FK	CK	<4.3GK	(5.5)SK	[5.4]NK	K(5.4)SH	(6.0)SK	(5.9)SK	6.2K	6.6K	(7.1)SK	(6.8)SK	7.2VK	(6.9)SK	K(6.3)JS	K(6.6)SF	K(5.8)SF	K(5.3)SF
25	SFK	FK	2.8FK	[2.6]BK	K(2.4)SF	K(3.3)JS	K(4.1)SF	(4.3)FK	(5.0)FK	(5.0)FK	[5.2]FK	(5.4)FK	5.4K	[5.6]SK	5.7K	K(6.0)JS	6.6VK	7.0	6.9	6.9F	7.4F	7.0F	7.0F	(6.1)SF
26	5.8F	(6.0)JF	K(4.6)SJ	3.6FK	K(3.2)SF	(4.0)JK	(4.6)SK	K(4.8)SF	(5.4)SK	(5.2)SK	(5.4)SK	5.6K	(5.5)SK	5.6K	(5.8)SK	5.9K	6.2K	6.7K	(6.9)JS	6.9	(6.4)S	(6.0)JS	5.7	5.7
27	5.4	(5.2)S	4.9	(4.3)S	(4.0)SF	(5.5)S	(6.3)H	7.3	7.5	(7.9)S	8.0	8.0	8.4	7.7	7.9	8.0	8.0	(8.2)S	(8.3)S	[7.9]A	[7.4]A	(6.5)S	(6.5)S	(6.2)SF
28	(6.0)S	5.6F	(5.4)S	(5.1)JS	4.4F	(5.0)S	(5.6)S	(6.6)S	(7.3)H	(7.1)S	(7.1)S	7.5	7.6	7.5	7.6	7.7	(7.9)S	(7.9)S	(8.1)S	(8.3)S	(7.8)S	(7.3)S	(6.1)SF	(6.2)SF
29	5.7F	5.2F	4.7F	(4.1)SF	(3.9)S	(5.2)S	(5.6)S	(6.4)H	(7.1)SH	7.7	7.4K	8.2K	K(8.9)JS	(9.5)SK	10.1K	10.7K	(10.7)SK	(11.2)SK	[10.3]MK	(9.5)SK	8.0FK	FK(6.9)SP	K[5.2]SF	3.6FK
30	2.3FK	[2.2]FK	K(2.1)SF	K[2.2]SF	2.3FK	3.4FK	4.1FK	4.7FK	5.0FK	5.0FK	4.9FK	5.0K	K(5.3)SF	5.2FK	5.4K	(5.9)SK	K(6.0)JS	K(6.0)JS	6.3K	K(6.1)SF	K(5.9)SF	K(5.4)SF	(5.3)SF	4.8F
31																								
Median	(5.8)	5.4	(4.9)	(4.2)	4.0	4.8	5.6	6.1	6.3	6.4	6.6	6.6	7.0	7.0	7.0	7.2	7.1	7.2	(7.4)	(7.1)	(7.0)	(6.8)	(6.4)	(6.0)
Count	29	29	30	30	30	30	29	28	30	30	30	30	30	30	30	29	29	29	30	30	30	30	30	30

Sweep. 1.0 Mc to 25.0 Mc in 30 seconds (June 1 through 1200, June 7), in 15 seconds (1215, June 7 through June 30).

Manual ☐ Automatic ☒

U S GOVERNMENT PRINTING OFFICE 1946 O - 702519

Form adopted June 1946

TABLE 54

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

h'F1 (Characteristic), Km (Unit), June (Month), 1950

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: B.E.B., By.H., McC.

Calculated by: By.H., B.E.B., McC., D.S., A.H.M.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						280	230	230	220	(200)S	(200)A	(220)S	A	A	210	210	210H	A	A					
2						A	(250)A	220	200H	230	210	(190)A	200	(200)A	200	210	210	220	230					
3							220	210	210	200	200H	200H	200	200	220	210	210	210	230					
4							230	210	220	200H	220	210	240	200	230	(230)A	210H	200	220					
5							Q	220	210	210	(230)A	200	200	(190)H	200H	200	210	(260)A	(220)A					
6							250K	210K	220K	220K	[210]AK	200K	200K	200K	200HK	200HK	230K	220K	AK					
7							Q	220	220	200	200	[200]A	200	210	210	210	220	A	A					
8							(240)A	A	220	220H	A	A	200	[200]A	200H	210	220	220K	240K					
9						280K	240K	250K	230K	230K	200K	210K	200K	200HK	200HK	220HK	220HK	280K	230					
10							260	220	(210)A	210	200	200	200	210	220	210	M	M	Q					
11							A	(240)A	200	200H	220	200	200	[200]A	200	220	240	A	A					
12							A	200H	200	220	200	190H	200	200H	200	A	A	A	A					
13							Q	Q	(200)A	200	210	200	220	200H	(220)A	[220]A	230	210	(230)A					
14							Q	220	220	210	200	200	200H	200	190	A	A	A	(220)A					
15							250	A	A	A	A	A	A	A	(210)A	220	220	250	A					
16							260	230	220	200	(200)A	170	200H	210	230H	[220]A	200	(200)H	A					
17							230K	240K	210K	200K	(200)HK	(200)HK	(180)HK	200K	(200)SK	210K	230K	230K	AK					
18							(260)A	(240)A	200	(200)S	200H	(230)H	(220)H	210H	[220]A	(220)A	(240)A	[240]A	230					
19							Q	B	200	200	200	(200)H	200	230	200	200H	[210]A	220	A					
20							Q	Q	(200)H	[200]C	(200)A	(200)A	(190)H	(190)H	200H	200	(200)S	(230)S	A					
21							Q	230	240	210	200	200	210	200H	200	220	210	210	220					
22							A	A	M	A	(230)A	A	A	A	(200)A	[210]A	220	A	A					
23							A	C	A	(220)A	200	[190]AK	(190)HK	(190)HK	[200]AK	(210)HK	210K	220K	240K					
24							QK	230K	200K	190K	200K	190K	200K	210K	220K	[220]AK	230K	AK	AK					
25							220K	(220)AK	200K	200K	190K	AK	AK	(200)AK	210K	[210]AK	210K	200	Q					
26							200HK	[200]AK	(200)AK	(200)AK	(190)HK	[180]SK	180HK	200HK	200HK	220K	210HK	220K	230					
27							240	220	A	A	A	200	190	[200]A	(210)A	210	210	220	A					
28							Q	(220)A	[210]A	(200)A	[200]A	200	A	A	200	200H	A	A	230					
29							Q	A	A	220	[200]AK	190HK	200K	200HK	230K	220K	230K	220K	MK					
30							220K	200HK	200HK	200HK	200K	190HK	200HK	200K	200K	210K	[220]SK	230K	AK					
31																								
Median						—	240	220	210	200	200	200	200	200	200	210	220	220	230					
Count						2	16	22	25	27	27	26	25	26	30	28	26	21	13					

Sweep: 1.0 Mc to 25.0 Mc in 30 seconds (June 1 through 1200, June 7), in 15 seconds (1215, June 7 through June 30).

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 55

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

foFl (Characteristic), Mc (Unit), June (Month), 1950

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: B.E.B., McC., By. H.

Calculated by: By. H., McC., B.E.B., D.S., A.H.M.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						L	L	4.4	4.5	(4.8)P	(4.9)H	(4.8)A	[5.0]A	5.1	[5.0]N	(5.0)H	4.7	L	A					
2						L	L	L	4.5	4.8	4.9	[4.8]A	(4.8)H	4.8	5.0	5.0	(4.7)P	(4.4)P	L					
3							L	L	(4.6)P	4.7	5.2	5.2	5.3	5.0	5.0	4.9	4.7	4.5	L					
4							(3.7)P	L	4.8	4.7H	5.0	5.0	5.1	5.1	5.2	5.1	L	L	L					
5							Q	L	4.2	5.0	5.0	5.2H	5.0	(5.2)P	5.1	5.0H	5.0	L	L					
6							4.0FK	4.1K	4.3K	4.6K	4.7K	(4.8)SK	4.8K	4.8K	4.7K	4.7K	4.5K	4.3K	LK					
7							Q	4.3	4.6	4.8H	5.1H	[5.1]A	5.1	5.0	5.3	5.0	4.9	L	L					
8							L	A	4.8	[5.0]L	(5.1)H	[5.1]A	(5.1)H	5.2	5.1	5.0	4.8	(4.6)PK	LK					
9						LK	LK	4.2K	4.5K	4.6K	4.7FK	4.9K	4.9K	5.0K	(4.8)SK	4.8K	4.7HK	4.5HK	L					
10							3.6F	4.2	4.9F	4.9	4.9	5.0	5.0	(5.0)S	4.9	(5.0)H	M	M	Q					
11							L	L	4.9	4.7	4.8	4.9	5.0	4.9	4.8	4.7	4.6	A	A					
12							L	L	4.8F	4.9	(5.1)H	[5.1]M	(5.1)H	(5.1)H	5.0	5.0H	4.7	A	L					
13							Q	Q	4.3	[4.6]L	(5.1)H	[5.1]M	(5.1)S	(5.1)J	(4.9)H	5.0	4.9	(4.2)H	L					
14							Q	(4.6)P	4.8	[5.1]L	5.4	5.4	(5.2)H	[5.2]N	(5.1)H	5.0	A	L	L					
15							L	L	L	5.0	L	A	A	(5.1)P	5.3	5.0	4.6	L	A					
16							L	L	4.3	5.0	(5.2)H	5.1F	5.4H	5.0	5.3	[4.9]M	4.5	L	L					
17							3.7K	4.1K	4.4K	(4.6)PK	(4.7)SK	(4.8)HK	4.9HK	4.8K	(4.8)SK	4.7K	4.7K	4.6K	LK					
18							L	(4.4)P	(4.4)S	(4.8)H	(4.7)H	(4.9)H	[4.9]A	(4.9)H	5.0	(4.8)S	4.5	4.5	L					
19							Q	B	L	(4.8)P	(4.9)P	4.8	(4.9)H	(5.0)H	4.8	5.0	(4.6)H	L	A					
20							Q	Q'	N	C	5.2	(5.0)H	[5.0]S	(5.0)H	(4.9)S	(4.8)P	[4.6]S	4.4	A					
21							Q	L	4.7	4.7	(4.9)S	(4.8)H	5.0	5.0	(4.9)S	4.8	[4.6]L	4.5	L					
22							A	(4.3)P	M	A	4.8	A	S	A	S	4.9	4.7	A	A					
23							L	C	N	(4.8)S	(5.1)H	NK	NK	(5.0)PK	(5.1)SK	(4.8)JK	4.8HK	(4.4)HK	(4.2)PK					
24							QK	3.9K	4.2K	4.2K	(4.6)HK	(4.8)HK	5.0K	4.9K	4.7FK	[4.3]AK	4.6K	(4.7)PK	LK					
25							(3.3)SK	(4.0)SK	4.3K	4.5FK	4.7FK	4.8K	[4.8]AK	(4.9)HK	(5.0)HK	(4.9)PK	4.5K	L	Q					
26							3.7K	(4.2)SK	4.4K	(4.7)HK	(4.7)SK	[4.8]SK	5.0K	5.0K	(4.8)SK	(4.9)HK	4.6K	4.3K	L					
27							L	L	L	4.9	5.0	5.3	(5.0)F	[5.1]A	5.2	4.9	4.8	(4.5)P	A					
28							Q	(4.4)P	[4.8]L	5.1	(5.0)A	5.1	[5.2]N	(5.3)H	[5.2]N	(5.1)H	4.9	L	L					
29							Q	(4.0)A	(4.7)S	4.8	5.0K	5.0K	5.2K	5.0K	5.0K	4.8K	4.6K	(4.3)PK	MK					
30							3.8FK	3.9FK	4.5K	4.5K	4.4K	4.6K	4.7K	4.7K	4.6K	4.4K	4.6K	4.2K	LK					
31																								
Median						—	3.7	4.2	4.5	4.8	4.9	5.0	5.0	5.0	5.0	4.9	4.7	4.4	—					
Count							7	15	24	28	29	27	27	29	29	30	27	16	1					

Sweep: 1.0 Mc to 25.0 Mc in 30 seconds (June 1 through 1200, June 7), in 15 seconds (1215, June 7 through June 30).

Manual ☐ Automatic ☒

U.S. GOVERNMENT PRINTING OFFICE 1946 O 702519

Form adopted June 1946

TABLE 56

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D C

IONOSPHERIC DATA

h'E (Characteristic), Km (Unit), June (Month), 1950

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Scaled by: B.E.B., By.H., McC.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

Calculated by: By.H., B.E.B., McC., D.S., A.H.M.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						S	110	110	110	100	(100)^A	(100)^A	(100)^A	(100)^A	100	100	100	100	(100)^A	(130)^S				
2						(110)^A	(100)^A	(100)^A	100	100	100	(100)^A	(100)^A	(100)^A	(100)^A	(100)^A	100	100	110	110^H				
3						110	110	100	100	(100)^A	(100)^B	(100)^A	(100)^A	(100)^A	(100)^A	(100)^A	100	100	110	(120)^A				
4						A	110	100	(100)^A	(100)^A	100	100	100	100	100	100	100	100	110	S				
5						A	110	100	100	100	100	(100)^A	100	100	100	100	100	(110)^A	(110)^A	120				
6						S^K	110^K	100^K	(100)^A_K	100^K	100^K	(100)^B_K	(100)^A_K	100^K	(100)^A_K	(100)^A_K	110^K	100^K	110^K	(110)^A				
7						A	110	110	100	100	100	(100)^A	(100)^A	(100)^A	100	100	110	110	(110)^A	(100)^A				
8						A	(110)^A	(110)^A	100	100	100	(100)^A	(100)^A	(100)^A	110	110	110	110^K	110^K	120^K				
9						S^K	110^K	100^K	100^K	(100)^A_K	100^K	100^K	100^K	100^K	(100)^A_K	110^K	110^K	110^K	110	(110)^A				
10						S	110	100	100	100	100	(100)^A	(100)^A	(100)^A	(100)^A	100	M	M	(100)^A	(100)^A				
11						(110)^A	(100)^A	(100)^A	100	100	100	100	100	100	100	100	100	(110)^A	(110)^A	(110)^A				
12						(110)^A	(110)^A	100	100	(100)^A	100	100	100	(100)^A	110	110	110	(110)^A	(110)^A	(110)^A				
13						(110)^A	(110)^A	(110)^A	(110)^A	100	100	(100)^A	(100)^A	(100)^A	(100)^A	(100)^A	(100)^A	(100)^A	(110)^A	(110)^A				
14						S	110	100	100	100	(100)^A	100	(100)^A	(100)^A	(100)^A	(100)^A	(100)^A	(100)^A	110	(110)^A				
15						(120)^A	110	110	100	(110)^A	(100)^A	(100)^A	(100)^A	(110)^A	(110)^A	(110)^A	(110)^A	110	110	(120)^A				
16						C	110	110	100	100	(100)^A	(100)^A	100	(100)^A	100	[100]^M	100	(100)^A	100	130^K				
17						S^K	110^K	100^K	(110)^A_K	100^K	(100)^A_K	(100)^A_K	(100)^A_K	100^K	(100)^S_K	100^K	100^K	110^K	110^K	(110)^A_K				
18						(130)^A	110	100	100	(110)^A	(100)^A	110	100	100	110	100	100	100	110	(110)^S				
19						S	110	(110)^A	(100)^A	(100)^A	(100)^A	100	100	100	110	110	110	110	110	(120)^A				
20						S	110	110	110	[100]^C	(100)^A	(100)^A	(100)^A	(100)^A	100	110	110	110	110	(110)^A				
21						S	110	110	100	100	100	100	100	100	100	100	110	110	110	120				
22						(110)^A	(110)^A	100	[100]^M	100	100	100	(100)^A	(100)^A	(100)^A	100	110	110	110	120				
23						C	110	[100]^C	100	100	100	(100)^A_K	(100)^A_K	(100)^A_K	(100)^A_K	100^K	100^K	110^K	110^K	120^K				
24						S^K	(100)^A_K	100^K	100^K	100^K	100^K	100^K	(100)^A_K	(100)^A_K	(100)^A_K	[100]^A_K	100^K	(100)^A_K	(110)^A_K	120^K				
25						A^K	100^K	100^K	100^K	100^K	100^K	100^K	(110)^A_K	(100)^A_K	100^K	(100)^A_K	100^K	100	110	120				
26						C^K	100^K	100^K	100^K	100^K	(100)^A_K	(100)^A_K	(100)^A_K	(100)^A_K	(100)^A_K	110^K	110^K	110^K	100	(110)^A				
27						S	110	(100)^A	(100)^A	100	100	100	(100)^A	(100)^A	(100)^A	100	100	100	(110)^A	(110)^A				
28						A	110	100	(100)^A	(100)^A	(100)^A	(100)^A	(100)^A	(100)^A	(110)^A	100	100	110	110	(110)^A				
29						(120)^A	110	110	100	(100)^A	(100)^A_K	(100)^A_K	(100)^A_K	(100)^A_K	(100)^A_K	(100)^A_K	110^K	110^K	[110]^M_K	120^K				
30						(100)^A_K	100^K	(100)^A_K	(100)^A_K	(100)^A_K	100^K	100^K	(100)^A_K	100^K	(100)^A_K	(110)^B_K	110^K	110^K	110^K	120^K				
31																								
Median						(110)	110	100	100	100	100	(100)	(100)	(100)	(100)	100	100	110	110	(110)				
Count						10	30	30	30	30	30	30	30	30	30	30	29	29	30	29				

Sweep: 1.0 Mc to 25.0 Mc in 30 seconds (June 1 through 1200, June 7), in 15 seconds (1215, June 7 through June 30).

Manual ☐ Automatic ☒

TABLE 57

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Form adopted June 1946

foE (Characteristic), Mc (Unit), June (Month), 1950

IONOSPHERIC DATA

National Bureau of Standards (Institution)

Observed at Washington, D.C.

Scaled by: B.E.B., By.H., McC.

Lat 38.7°N, Long. 77.1°W

75°W Mean Time

Calculated by: By.H., B.E.B., McC., D.S., A.H.M.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						(1.6)S	2.5F	2.9F	3.1	3.3	A	A	A	A	3.6	3.6	3.3	3.0	2.4	1.7				
2						A	A	2.5	3.0	3.3	3.4	A	A	A	(3.6)A	[3.4]A	3.2	2.9	2.5	1.9				
3						1.7	2.3	2.7	3.1	3.3	(3.4)B	3.5	(3.5)A	A	A	A	3.4	3.0	2.5	A				
4						A	2.3	2.6	(3.2)A	[3.4]A	3.5	3.6	3.7	[3.7]B	3.7	3.5	3.3	3.0	2.5	1.9				
5						A	2.3	2.8	3.1	3.4	3.5	3.6	3.6	3.6	3.6	3.6	3.3	3.0	2.4	1.9				
6						FK	2.3K	2.7K	3.1K	3.3K	3.6K	BK	AK	(3.6)PK	3.6K	3.4K	3.2K	2.9K	2.4K	A				
7						A	2.4	2.8	3.1	3.3	3.4	A	A	(3.6)A	(3.6)P	(3.6)S	3.4	3.0	2.3	A				
8						A	A	(2.7)A	3.3	3.5	3.5	A	A	A	3.7	3.5	3.4	3.0K	(2.5)AK	1.9K				
9						SK	2.2K	2.8K	3.1K	3.4K	3.7K	3.7K	3.8K	3.6K	AK	3.5K	(3.4)FK	3.0K	2.5	A				
10						1.7	2.5F	2.8F	(3.2)A	3.2	3.4	[3.6]A	(3.7)A	3.6	[3.6]A	3.5	M	N	A	A				
11						A	(2.5)A	(2.8)A	3.0	3.3	3.5	(3.7)F	3.8	3.8	3.5	3.4	3.3	3.0	2.5	A				
12						A	2.2	2.7	(3.1)A	[3.2]A	3.4	3.5	(3.8)P	[3.8]B	3.7	3.6	3.3	3.0	A	A				
13						A	A	(2.8)A	[3.1]A	3.4	(3.4)A	A	A	A	A	A	A	(3.1)A	A	A				
14						A	2.5	3.0	3.2	3.4	[3.6]A	3.7	3.8	(3.7)A	(3.4)A	A	A	A	(2.5)S	A				
15						(1.9)A	(2.5)A	3.0	3.2	(3.5)A	3.5	A	A	A	3.4	3.2	(3.2)A	(3.1)A	(2.7)A	A				
16						C	2.5	3.0	(3.2)A	(3.3)A	[3.4]A	(3.5)A	3.6	3.8	3.5	[3.4]M	3.3	(3.1)A	(2.5)A	1.9K				
17						SK	(2.4)AK	(2.8)AK	[3.0]AK	3.2K	AK	AK	AK	3.5K	(3.5)SK	3.5K	3.2K	3.0K	2.9K	AK				
18						A	2.1	2.7	3.1	A	A	3.7	3.7	3.8	3.6	3.4	3.2	2.9	2.4	1.7				
19						S	2.3	2.5	A	A	A	3.6	3.8	3.7	3.6	3.4	3.2	2.8	2.5	A				
20						S	F	F	3.2	C	A	A	A	A	3.6	3.3	(3.2)S	3.0	(2.6)S	A				
21						S	2.3	2.8	3.2	3.4	3.5	3.5	3.6	3.7	3.5	3.5	3.3	3.0	2.4	1.7				
22						A	(2.4)A	2.9	[3.1]M	3.3	3.4	3.4	(3.4)A	A	A	(3.6)A	3.4	3.0	2.6	(1.8)A				
23						C	2.3	[2.7]C	3.1	3.4	3.5	(3.5)AK	AK	AK	AK	3.3K	3.3K	FK	FK	1.7K				
24						FK	AK	(2.5)AK	3.3K	3.3K	(3.4)AK	3.4K	[3.6]AK	(3.8)AK	(3.5)AK	[3.4]AK	3.2K	AK	AK	(1.9)AK				
25						AK	(2.2)AK	2.7K	(3.1)AK	3.1K	(3.5)AK	(3.5)AK	AK	AK	3.7K	3.5K	3.2K	[2.9]F	2.6	1.9				
26						CK	2.2K	2.7K	3.0K	3.1K	AK	AK	AK	(3.5)AK	[3.5]AK	3.6K	3.4K	3.1K	2.6	A				
27						S	2.4	(2.9)F	(3.3)A	(3.4)A	(3.5)A	(3.6)A	[3.6]A	(3.5)A	(3.4)A	3.4	3.4	3.1	(2.6)S	A				
28						A	2.3	2.8	3.0	A	A	(3.3)A	(3.3)A	A	A	(3.5)A	3.2	(2.9)A	2.5	A				
29						A	2.3	2.9	3.2	(3.2)A	3.3K	AK	AK	3.6FK	3.4K	3.3K	(3.2)PK	3.0K	[2.4]MK	(1.9)PK				
30						(1.8)AK	2.2K	2.5K	2.8K	3.2K	3.3K	(3.4)PK	3.5K	3.5K	3.5K	3.4K	(3.2)SK	3.0K	2.6K	1.7K				
31																								
Median						(1.7)	2.3	2.8	3.1	3.3	3.5	3.5	3.6	3.6	3.6	3.5	3.3	3.0	2.5	1.9				
Count						5	25	29	29	26	23	19	17	19	24	27	27	26	25	14				

Sweep: 1.0 Mc to 25.0 Mc in 30 seconds (June 1 through 1200, June 7), in 15 seconds (1215, June 7 through June 30).

Manual ☐ Automatic ☒

U.S. GOVERNMENT PRINTING OFFICE 1946 O - 703519

Form adopted June 1946

TABLE 58

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

IONOSPHERIC DATA

Es (Characteristic), Mc,Km (Unit), June (Month), 1950

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: B.E.B., McC., By.H.

Calculated by: By.H., McC., B.E.B., D.S., A.H.M.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	G	G	G	G	G	G	G	G	46/120	64/110	4.9Y/100	7.2/100	7.0/100	54/100	G	50/110	5.6Y/110	5.1/110	56/100	G	G	G	G	G
2	G	G	20/120	G	G	3.0Y/110	35Y/100	39Y/100	G	G	G	64/100	50Y/100	55Y/100	34/100	3.5/100	G	G	G	G	G	G	G	G
3	G	G	G	G	G	G	6.2/100	G	G	3.7/100	3.9/100	3.8/100	3.8/100	3.7/100	38/100	35/100	G	G	3.7Y/120	28/120	G	17/140	36/110	G
4	38/110	G	G	G	G	16/100	G	G	39Y/100	34/100	G	G	G	G	G	52/110	45/120	G	G	G	G	G	G	G
5	24/120	G	G	26/100	48/100	28/100	G	G	G	G	58/110	7.8/100	G	G	G	G	G	6.0/110	40/110	44/110	G	G	G	G
6	G	G	G	G	G	G	G	60Y/110	66Y/100	G	43/120	G	40/100	G	34/100	24/100	G	G	36/120	32Y/110	G	G	29/110	G
7	25/100	31/100	23/100	24/100	G	19/100	G	G	G	G	G	81/100	5.8/100	40/100	G	62Y/100	48/120	66/110	5.8/110	66/100	88/100	72/100	40/100	7.0/100
8	73/100	4.3/100	30Y/100	68/100	3.5/100	48/100	60/110	61/110	43/110	4.3/110	5.6/110	116/100	5.2/100	56/100	72/100	G	G	34/120	29/130	G	G	G	G	G
9	G	G	G	G	G	G	G	G	G	10.8Y/100	G	G	G	G	37/100	G	G	G	G	19/110	G	G	G	G
10	G	G	G	G	G	G	G	G	5.1Y/110	4.5Y/110	45Y/110	6.5Y/100	39/100	3.3/100	56/100	G	M	M	5.5/100	54/100	8.6/100	G	3.5/110	58/100
11	70/100	6.9/100	38/100	23/110	3.5/110	3.0Y/110	44/100	54/100	G	4.4/110	5.3Y/110	G	G	56/110	G	G	G	70/110	91/110	78/110	35/110	34/110	G	G
12	G	G	11/120	G	38Y/120	46/110	6.2Y/110	G	3.7/110	39/100	G	G	G	8.3Y/100	G	5.2/120	54/120	72/110	66/110	67/110	33Y/110	4.2/100	4.8/110	G
13	G	39/120	3.8/120	(50)S/110	60Y/110	10.4/110	62/110	51/110	5.0/110	46Y/110	3.6/110	5.0/100	5.0Y/100	5.0/100	5.4/100	7.0/100	6.8F/100	34/100	3.5Y/110	41/110	49/110	34Y/110	34/110	43/110
14	(25)S/120	G	G	G	G	18/140	G	G	G	G	6.3/100	G	7.4Y/100	5.7/100	3.8/100	5.2/100	88/100	5.9/100	45Y/120	70Y/110	G	G	7.7/110	(58)S/110
15	58/110	7.5F/110	6.0F/110	44/110	33/100	1.9/120	3.7/130	50/120	60/110	70/110	13.8/100	8.0/100	99/100	6.8/110	8.6/110	5.0Y/110	33/110	43/130	70/120	96/120	68/120	76/120	36/110	2.5Y/110
16	G	G	G	G	G	C	G	40/120	44/110	37/110	86/110	34/100	G	68/100	G	M	G	65/100	49/120	G	(19)S/110	(45)S/100	G	G
17	G	G	G	G	G	G	3.3/120	38/110	3.3/110	G	3.8/100	3.9/100	3.9/100	G	G	5.2Y/110	44/120	G	6.4/120	8.0/110	82/110	G	50/110	25/120
18	(33)S/100	32/120	G	G	3.3/130	39/130	60/120	6.6/130	G	39/110	4.5/100	44/130	5.8/130	54/130	5.7/130	74/120	53/130	64/120	40/120	19/130	(36)S/110	G	26/110	G
19	2.8/110	1.9/110	G	G	G	G	36/120	78/110	40F/100	38/110	3.8F/100	G	G	G	G	G	60Y/120	(6.0)S/120	7.6/110	8.0/120	58/110	94/110	40/110	47/110
20	G	(4.0)S/110	24Y/110	G	G	G	G	G	4.5Y/110	C	56/100	4.7/100	3.6/100	3.8/100	G	G	G	44Y/130	60/120	(70)S/110	40/110	36/110	(34)S/110	33/110
21	G	5.2/110	50/110	39/110	G	G	G	G	3.8/110	5.0/110	50/110	5.8Y/110	3.8/110	G	4.7Y/110	G	G	G	G	G	G	G	G	G
22	G	G	G	G	24/120	39/110	(54)S/110	8.0Y/100	M	62/110	54/110	5.8/110	58/100	94F/100	6.0/100	5.8/120	3.7/130	54/130	7.2/120	40/120	40/110	56/110	44/110	(40)S/110
23	78/110	65/100	46/100	50/100	29Y/110	C	62/120	C	56/110	58/110	48Y/120	8.2/100	60/100	74/100	7.8/100	G	G	G	G	G	G	G	G	G
24	G	G	G	G	G	G	41/120	11.2/110	G	G	38/110	6.3Y/110	50Y/100	108/100	10.2/100	8.3/100	38F/100	52/110	40/110	2.2/110	G	G	G	G
25	3.6/100	G	3.1/100	3.0Y/100	16/100	(35)S/120	27/110	58/100	48/110	36/110	10.8Y/110	54/120	76/110	5.2/110	G	70/120	40/110	G	G	G	G	G	G	G
26	G	G	G	G	G	C	G	6.0/110	8.0F/110	6.0/110	53/100	5.0/100	3.5/100	34/100	3.6/100	G	G	G	4.0/110	3.7/110	31Y/110	49Y/110	66/110	3.5/110
27	2.5/100	G	G	G	G	G	G	9.7Y/100	98Y/100	68/110	49/110	56/110	6.0/100	126/100	9.7/100	G	G	G	68/110	(104)S/110	21.6/110	190/100	88/100	6.6/100
28	4.2/100	4.1/100	44/110	55/110	5.5/110	4.4/110	42/120	104/120	58/100	125/100	8.6/100	15.0/100	5.5/100	5.0/100	46Y/110	86Y/110	10.4/110	7.3/110	G	70/110	4.5/110	48/110	31/110	75/110
29	43F/110	G	G	16Y/110	34Y/120	36/120	58/110	49/110	78/100	(58)S/100	58/100	35Y/100	60/100	3.4Y/100	30/100	25Y/100	G	G	M	G	G	G	G	G
30	G	G	G	G	G	7.0/100	54/120	5.9Y/100	18/100	78Y/100	G	G	32/100	G	34/100	G	G	G	5.2/120	G	7.6/110	6.7/110	34/110	3.5/110
31																								
Median	**	**	**	**	**	1.9	3.4	4.9	4.0	4.3	4.8	5.0	4.5	5.0	3.5	3.5	**	3.4	4.0	3.4	2.5	**	3.0	**
Count	30	30	30	30	30	27	30	29	29	29	30	30	30	30	30	29	29	29	29	30	30	30	30	30

** MEDIAN fEs LESS THAN MEDIAN foE OR LESS THAN LOWER FREQUENCY LIMIT OF RECORDER.

Sweep: 1.0 Mc to 25.0 Mc in 30 seconds (June 1 through 1200, June 7), in 15 seconds (1215, June 7 through June 30).

Manual ☐ Automatic ☒

U. S. GOVERNMENT PRINTING OFFICE 1946 O - 702510

Form adopted June 1946

TABLE 59

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

IONOSPHERIC DATA

(M1500)F2 (Characteristic), ____ (Unit), June (Month), 1950

Observed at Washington, D. C.

Lat. 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: B.E.B., By. H., McC.

Calculated by: By. H., B.E.B., McC., D.S., A.H.M.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	1.7	1.8 F	(1.8) S	1.8	(1.9) JS	(1.9) S	2.1	1.8	1.9	(1.6) A	(1.7) S	1.6	1.9	(1.8) JS	(1.9) S	(1.9) S	(1.9) S	1.9	1.9	(1.8) S	1.8	1.8	1.7	1.7
2	(1.7) S	(1.8) S	1.8	1.8	1.8	1.9	2.1	(1.9) H	(1.9) H	2.0	2.1	(2.1) H	(1.9) S	(1.7) S	1.7	1.9	1.8	(1.9) JS	(2.0) S	2.0	1.8	1.9	(1.8) S	(1.8) S
3	(1.8) S	1.8	1.8	1.8	1.9	2.0	2.0	(2.0) H	(2.0) H	2.2	(1.8) F	(1.8) S	(1.7) S	1.9 F	1.8	2.0 F	1.9	(1.8) JS	2.0	(2.0) S	1.9 F	(1.9) SF	1.7 F	(1.8) JS
4	1.8	1.8	1.8	(1.9) S	1.8	2.1	2.0	N H	(1.9) H	1.9	1.7	1.8	1.8	1.8	1.9	1.9	(1.9) JS	2.0	(2.1) S	2.0	2.0	1.8	1.9	1.9
5	1.8	1.8	1.9	1.8	1.8	1.9	2.0	(2.0) S	2.1	2.0	(1.7) H	1.8	1.8	1.8	1.9	1.9	1.9	1.9	1.9	2.1	1.9 F	1.7	(1.7) S	1.7 F
6	1.7	1.7 F	K(1.7) JF	K(1.8) JF	K(1.8) JF	1.9 FK	G K	1.6 FK	1.6 FK	G K	1.8 K	K(1.7) SF	1.6 K	1.7 K	1.6 K	1.6 K	K(1.8) JS	(1.8) SK	1.7 K	(2.0) S	(1.9) S	(1.9) S	(1.9) S	(1.9) SF
7	(1.8) SF	(1.8) SF	(1.8) SF	1.9 F	2.0 F	2.1 F	2.0 F	2.0	1.9	2.2	(2.0) S	A	2.0	1.9	1.9	(1.9) S	1.9	1.9	1.9	(2.0) S	2.0	1.8	1.9 F	(1.9) JF
8	1.9 F	2.0 F	1.9 F	1.8 F	1.8 F	2.0 F	1.9 FZ	2.1	1.9	(1.9) H	(1.9) J	2.0 F	1.9	1.8	1.9	1.8	1.9	1.8 K	1.9 K	(1.8) SK	1.9 K	1.8 K	1.9 K	1.7 K
9	1.7 K	(1.6) SK	(1.7) HK	1.8 FK	1.7 FK	1.7 K	K(2.0) SH	(1.7) HK	G K	1.6 K	1.8 FK	1.9 FK	1.7 FK	1.6 K	(1.6) SJ	1.7 K	1.7 K	(1.7) SK	1.7	1.9	1.8	1.8 F	1.7 F	1.7 F
10	(1.6) SF	1.8 F	1.9 F	(1.8) SF	(1.8) SF	1.8 F	1.9 F	2.1 F	(1.8) F	1.9 F	(1.6) SH	1.7 F	1.7 H	1.7	(1.8) S	(1.9) S	M	M	(2.1) S	(2.1) S	(1.8) JS	(1.9) SF	(1.8) SF	(1.9) SF
11	(1.9) SF	(1.9) SF	(1.8) SF	1.8 F	1.9 F	(2.0) S	2.1 F	2.1	1.9	(1.7) JS	(1.7) H	1.8	(1.4) F	1.6 H	1.7	(1.8) S	1.8	1.9	(1.9) A	(2.1) S	(1.9) SF	(1.7) JF	1.8 V	1.8 F
12	1.9 F	1.8 F	1.9 F	1.9 F	1.9 F	(2.0) SF	(2.2) SF	1.8 F	(1.9) SF	2.1	(1.9) S	1.8	1.9	(1.7) JH	1.9	(1.8) S	1.9	1.8	1.9	(2.1) S	2.0	(1.8) SF	1.8 F	1.8 F
13	1.8 F	(1.9) SF	(1.9) SF	(1.9) S	(1.9) S	(2.1) S	2.0	(1.9) H	2.1	(1.8) H	(1.9) S	(1.8) SH	(1.9) S	1.9	(1.8) JS	1.8	1.9	1.9	1.9	(2.0) S	1.9 F	1.8 F	1.7 F	1.7 F
14	1.8	1.8 F	1.9 F	1.8 F	1.9 F	S F	2.0 F	2.0	2.1	1.9	1.9	1.9	1.9	(1.9) S	1.9	1.9	1.9	1.9	2.0	(1.9) SP	1.8	1.8	1.9	1.9
15	1.9	1.9	1.8	1.8	1.8	2.1	2.1	2.0 F	1.9	(1.9) JS	1.8	1.9	1.8	(1.8) JS	2.0	1.9	1.9	2.0	(2.0) S	(1.9) JS	(1.9) JS	(1.9) JS	(1.9) JS	1.9
16	1.8	2.0	1.9	1.9	1.9	2.1	(2.2) S	2.1	2.2	1.8	(1.9) S	1.9	1.8	1.8	1.8	M	1.9	(1.9) S	1.8	(1.8) SK	(1.9) SK	(1.9) SK	(1.9) SK	K(1.8) S
17	K(1.9) SJ	(1.8) FK	(1.8) FK	(1.8) SK	1.9 K	K(1.9) JS	1.8 K	(1.7) SK	1.7 K	1.8 K	(1.6) JK	K(1.7) JS	(1.5) JK	1.5 K	(1.8) SK	1.7 K	1.7 K	1.9 K	1.9 K	1.9 K	1.9 K	1.9	1.8	(1.8) S
18	(1.9) S	(2.0) SF	(1.9) S	(1.8) S	1.8	(1.9) JS	2.0	2.0	N	2.0	(1.8) JH	(1.8) JS	1.7	1.7	1.8	(1.7) S	1.7 F	1.8	1.9 F	2.0 F	(1.9) SF	(1.9) SF	(1.8) SF	(1.8) SF
19	(1.8) S	1.8	2.0	(2.0) SF	2.0 F	2.2	2.0	(2.0) J	(1.9) J	2.0 V	2.0	1.9	(1.9) S	1.9	1.9	1.9	1.9	1.9	(1.9) S	(2.0) S	(2.0) S	(1.9) JS	(1.9) JS	(1.8) S
20	(1.9) S	(1.9) S	(2.0) S	1.9 F	(1.9) S	2.0	(2.0) S	2.2	N	C	1.9 H	(1.8) H	1.9	(2.0) SV	(1.9) S	(1.7) JS	1.8	(1.8) S	(1.9) S	(1.9) S	(1.9) S	(1.9) S	(1.8) SP	(1.8) S
21	1.8	(1.8) SF	1.9 F	(2.1) VF	1.9 F	1.9	1.9	(1.9) S	2.0	(2.1) S	1.8	(1.7) SV	1.8	(1.7) J	(1.7) S	1.9	1.7	1.9	1.9	2.0	(1.9) S	(1.8) JS	(1.9) S	(1.9) S
22	(1.9) S	1.9 F	1.9 F	1.9 F	(1.8) JS	(2.0) JS	(1.7) JS	2.0	M	(1.8) JS	(1.9) SH	1.4	(1.9) S	(1.8) JS	(1.5) JS	1.6	1.8	(1.9) JS	A S	1.8	1.9	(2.0) S	(2.0) JS	(1.8) FS
23	1.7 F	(1.8) SF	(1.8) SF	1.8 F	1.8 F	C	(2.0) JS	C	(1.8) SV	1.9	(2.0) S	1.8 K	1.8 K	1.8 K	1.8 K	1.7 K	1.8 K	K(1.7) JS	(1.8) SK	(1.9) SK	(1.9) SK	(1.7) SK	(1.9) SK	(2.0) SK
24	K(1.7) SF	K(1.6) SF	K(1.5) FV	F K	(1.7) FK	K(1.5) SF	(1.9) FK	(1.4) SK	G K	1.3 K	(1.4) HK	(2.1) SK	K(1.6) SH	(1.8) SK	1.7 K	1.7 K	1.7 K	1.8 K	(1.9) SK	1.9 K	(1.8) SK	1.8 FK	K(1.8) SF	K(1.8) SF
25	1.8 FK	S FK	K(1.9) SF	F K	(1.7) FK	1.9 FK	G K	F K	(1.3) FK	1.6 K	(1.7) FK	(1.7) FK	(1.9) AK	(1.9) SK	(1.9) JA	(1.8) AK	(1.8) SK	1.9 V	1.9 F	1.9 F	(1.9) SF	1.7 F	(1.8) SF	1.8 F
26	(1.8) JS	(1.8) SF	K(2.1) SF	1.9 FK	1.9 FK	C K	1.8 K	(1.8) SK	(1.8) SK	(1.7) SK	(1.7) SK	(1.8) SK	S K	1.4 K	1.6 K	1.7 K	1.8 K	1.8 K	(1.9) S	2.0	(2.0) S	(1.9) S	(1.9) S	1.8 V
27	1.8	1.9	1.9	(2.0) S	(1.9) S	(2.1) S	(2.4) S	2.1	2.2	2.0	(1.9) S	1.9	(1.8) FV	A	1.8	1.8	(1.9) S	(2.0) S	(2.0) S	(2.0) S	(1.9) S	(2.0) S	(1.8) SF	(1.9) SF
28	(1.8) S	(1.8) JS	(1.8) SF	1.9 F	2.0	(2.1) S	(2.0) SF	2.0	2.0	2.0 F	2.1	1.9	1.9	2.0	1.8	1.9	1.9	1.9	(1.9) S	(2.0) S	(1.9) S	(1.9) S	(2.0) S	(1.8) SF
29	(2.0) SF	2.0 F	1.9 F	(2.0) SF	2.0 F	(2.1) JS	(2.2) S	(2.0) SH	(1.9) S	(2.0) SH	2.0 K	1.9 K	K(1.7) JS	1.6 K	1.7 K	(1.7) SK	1.8 K	K(1.8) SP	M K	(1.8) SK	K(1.9) SP	K(1.7) SF	K(1.8) SF	1.8 FK
30	K(2.0) SF	(1.7) FK	K(1.8) SF	S FK	F K	2.0 FK	G K	1.6 FK	1.8 FK	1.6 FK	1.7 FK	G K	1.6 FK	1.6 HK	1.5 FK	1.7 K	K(1.8) JS	K(1.9) JS	1.9 K	1.9 FK	K(2.0) SF	1.9 FK	1.8 F	(1.9) SF
31																								
Median	1.8	1.8	1.9	1.8	1.9	2.0	2.0	2.0	1.9	1.9	(1.8)	1.8	1.8	1.8	1.8	1.8	1.8	1.9	1.9	(2.0)	(1.9)	(1.8)	(1.8)	(1.8)
Count	30	29	30	27	29	27	30	27	27	29	30	29	29	29	30	29	29	29	28	30	30	30	30	30

Sweep 1.0 Mc to 25.0 Mc in 30 seconds (June 1 through 1200, June 7), in 15 seconds (1215, June 7 through June 30)

Manual ☐ Automatic ☒

Form adopted June 1946

TABLE 60

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

(M3000)F2 (Characteristic), ____ (Unit), June (Month), 1950

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: B.E.B., By. H., McC.

Calculated by: By. H., B.E.B., McC., D.S., A.H.M.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	2.7	2.7F	(2.7)S	2.7	(2.9)JS	(2.9)S	3.2	2.7	2.9	(2.5)A	(2.6)S	2.4	2.9	(2.7)JS	(2.8)S	(2.8)S	(2.8)S	2.8	2.9	(2.8)S	2.8	2.7	2.6	2.6
2	(2.6)S	(2.8)S	2.7	2.8	2.8	2.9	3.1	(2.8)H	(2.9)H	3.0	3.0	(3.1)H	(2.9)S	(2.7)S	2.6	2.9	2.8	(2.8)JS	(2.9)S	3.0	2.8	2.8	(2.7)S	(2.7)S
3	(2.7)S	2.8	2.7	2.8	2.9	3.0	2.9	(3.1)H	(3.0)H	3.2	(2.8)F	(2.8)S	(2.7)S	2.9F	2.8	3.0F	2.9	(2.8)JS	3.0	(3.0)S	2.8F	(2.8)SF	2.7F	(2.6)JS
4	2.7	2.8	2.8	(2.9)S	2.8	3.1	3.1	N H	(2.8)H	2.9	2.6	2.7	2.7	2.7	2.8	2.9	(2.9)JS	3.0	(3.0)S	3.0	2.9	2.7	2.8	2.8
5	2.7	2.8	2.8	2.7	2.8	2.9	3.0	(2.9)S	3.1	2.9	(2.5)H	2.7	2.7	2.8	2.8	2.8	2.8	3.0	2.9	3.0	2.8F	2.6	(2.6)S	2.6F
6	2.6	2.7F	K(2.6)JF	K(2.8)JF	K(2.7)JF	2.9FK	G K	2.5FK	2.4FK	G K	2.8K	K(2.6)SF	2.4K	2.6K	2.5K	2.5K	K(2.7)JS	(2.7)SK	2.7K	(3.0)S	(2.8)S	(2.9)S	(2.9)S	(2.9)SF
7	(2.8)SF	(2.8)SF	(2.8)SF	3.0F	3.0F	3.2F	3.0F	3.1	2.9	3.2	(2.9)S	A	2.9	2.9	2.8	(2.9)S	2.8	2.8	2.9	(3.0)S	3.0	2.7	2.9F	(3.0)JF
8	2.9F	3.0F	3.0F	2.7F	2.7F	3.0F	2.9FZ	3.1	3.0	(2.7)H	(2.8)J	3.0F	2.9	2.8	2.9	2.9	2.9	2.7K	2.8K	(2.8)SK	2.9K	2.8K	2.9K	2.7K
9	2.6K	(2.5)SK	(2.7)HK	2.8FK	2.6FK	2.6K	K(3.0)SH	(2.5)HK	G K	2.5K	2.7FK	2.9FK	2.7FK	2.5K	K(2.5)JS	2.5K	2.7K	(2.6)SK	2.6	2.9	2.9	2.8F	2.7F	2.6F
10	(2.5)SF	2.8F	2.9F	(2.7)SF	(2.7)SF	2.7F	2.9F	3.1F	(2.8)F	2.9F	(2.4)SH	2.6F	2.7H	2.5	(2.6)S	(2.9)S	M	M	(3.2)S	(3.1)S	(2.8)JS	(2.8)SF	(2.8)SF	(2.9)SF
11	(2.9)SF	(2.9)SF	(2.8)SF	2.9F	2.8F	(3.0)S	3.1F	3.1	2.9	(2.7)JS	(2.6)H	2.7	(2.1)F	2.5H	2.6	(2.7)S	2.7	2.8	(2.8)A	(3.1)S	(2.8)SF	(2.6)JF	2.7V	2.8F
12	2.9F	2.8F	2.9F	2.9F	2.8F	(3.0)SF	(3.3)SF	2.7F	(2.9)SF	3.1	(2.8)S	2.7	2.9	(2.6)JH	2.8	(2.7)S	2.8	2.8	2.9	(3.2)S	3.0	(2.7)SF	2.7F	2.8F
13	2.8F	(2.9)SF	(2.9)SF	(2.9)S	(2.8)S	(3.0)S	3.0	(2.9)H	3.1	(2.7)H	(2.9)S	(2.7)SH	(2.8)S	2.9	(2.8)JS	2.7	2.9	2.8	2.9	(3.1)S	2.9F	2.8F	2.7F	2.6F
14	2.7	2.7F	2.8F	2.8F	2.9F	S F	3.0	3.0	3.2	2.9	2.8	2.9	2.9	(2.9)S	2.8	2.9	2.9	2.9	3.0	(2.9)SP	2.9	2.8	2.8	2.8
15	2.8	2.9	2.7	2.7	2.8	3.0	3.2	3.0F	2.8	(2.8)JS	2.7	2.8.	2.7	(2.8)JS	2.9	2.9	2.9	3.0	(2.9)S	(2.9)JS	(2.9)JS	(2.9)JS	(2.9)JS	2.8
16	2.8	2.9	3.0	2.9	2.8	3.1	(3.1)S	3.1	3.2	2.7	(2.8)S	2.9	2.7	2.7	2.7	M	2.8	(2.9)S	2.8	(2.8)SK	(2.9)SK	(2.9)SK	(2.8)SK	K(2.7)SJ
17	K(2.8)SJ	(2.7)FK	(2.7)FK	(2.8)SK	2.8K	K(2.8)JS	2.7K	(2.6)SK	2.6K	2.7K	(2.5)JK	K(2.7)JS	(2.3)JK	2.2K	(2.7)SK	2.6K	2.6K	2.9K	2.9K	2.9K	2.9K	2.8	2.8	(2.8)S
18	(2.9)S	(2.9)SF	(2.9)S	(2.7)S	2.7	(2.8)JS	3.0	3.0	N	3.0	(2.7)JH	(2.8)JS	2.7	2.6	2.7	(2.7)S	2.6F	2.7	2.9F	3.0F	(2.9)SF	(2.8)SF	(2.8)SF	(2.7)SF
19	(2.7)S	2.8	3.0	(3.1)SF	3.0F	3.1	3.0	(3.0)J	(2.9)J	3.0V	3.0	2.8	(2.9)S	2.9	2.9	2.8	2.9	2.8	(2.8)S	(2.9)S	(2.9)S	(2.9)JS	(2.8)JS	(2.8)S
20	(2.8)S	(2.8)S	(3.0)S	2.9F	(2.9)S	3.0	(2.9)S	3.3	N	C	2.9H	(2.7)H	2.9	(3.0)SV	(2.9)S	(2.6)JS	2.7	(2.8)S	(2.8)S	(2.9)S	(2.8)S	(2.8)S	(2.8)SP	(2.8)S
21	2.8	(2.8)SF	2.9F	(3.2)YF	2.9F	2.9	2.9	(3.0)S	2.9	(3.1)S	2.8	(2.5)SV	2.8	(2.5)J	(2.6)S	2.8	2.7	2.8	2.9	3.1	(2.9)S	(2.7)JS	(2.9)S	(2.8)S
22	(2.9)S	2.9F	2.9F	2.9F	(2.8)JS	(3.1)JS	(2.5)JS	3.0	M	(2.8)JS	(2.8)SH	2.2	(2.8)S	(2.7)JS	(2.8)JS	2.4	2.8	(2.9)JS	A S	2.8	2.7	(2.9)S	(2.9)JS	(2.7)SF
23	2.7F	(2.8)SF	(2.7)SF	2.7F	2.7F	C	(3.1)JS	C	(2.7)SV	3.0	(3.0)S	2.7K	2.7K	2.8K	2.8K	2.7K	2.6K	K(2.6)JS	(2.8)SK	(2.9)SK	(2.9)SK	(2.6)SK	(2.8)SK	(3.0)SK
24	K(2.6)SF	K(2.5)SF	K(2.3)FV	F K	(2.6)FK	K(2.4)SF	(2.8)FK	(2.0)SK	G K	2.0K	(2.1)HK	(3.2)SK	K(2.5)SH	(2.8)SK	2.6K	2.6K	2.6K	2.8K	(2.9)SK	2.9K	(2.8)SK	2.7FK	K(2.8)SF	K(2.7)SF
25	2.8FK	S FK	K(2.9)SF	F K	(2.6)FK	2.9FK	G K	F K	(2.0)FK	2.5K	(2.6)FK	(2.6)FK	(2.9)AK	(2.9)SK	(2.9)JK	(2.8)AK	(2.7)SK	2.8V	2.9F	2.8F	(2.8)SF	2.5F	(2.7)JS	2.7F
26	(2.8)JS	(2.7)SF	K(3.1)SF	2.8FK	2.9FK	C K	2.7K	(2.9)SK	(2.7)SK	(2.6)SK	(2.6)SK	(2.7)SK	S K	2.2K	2.6K	2.7K	2.7K	2.8K	(2.9)S	3.0	(3.0)S	(2.8)S	(2.8)S	2.7V
27	2.8	2.8	2.9	(2.9)S	(2.9)S	(3.1)S	(3.4)S	3.2	3.2	3.0	(2.9)S	2.8	(2.7)FV	A	2.8	2.8	(2.8)S	(3.0)S	(3.0)S	(3.0)S	(2.9)S	(3.0)S	(2.8)SF	(2.8)SF
28	(2.7)S	(2.8)JS	(2.8)SF	2.8F	3.0	(3.1)S	(3.0)SF	3.0	3.1	3.0F	3.0	2.9	3.0	3.0	2.7	2.9	2.8	2.9	(2.9)S	(3.0)S	(2.9)S	(2.9)S	(3.0)S	(2.8)SF
29	(3.0)SF	3.0F	3.0F	(3.0)SF	3.0F	(3.1)JS	(3.1)S	(3.0)SH	(2.9)S	(3.1)SH	2.9K	2.8K	K(2.6)JS	2.5K	2.5K	(2.6)SK	2.7K	K(2.7)SP	M K	(2.7)SK	K(2.8)SP	K(2.6)SF	K(2.8)SF	2.8FK
30	K(2.9)SF	(2.5)FK	K(2.7)SF	S FK	F K	3.0FK	G K	2.5FK	2.8FK	2.4FK	2.5FK	G K	2.5FK	2.4HK	2.3FK	2.6K	K(2.7)JS	K(2.8)JS	2.9K	2.9FK	K(3.0)SF	2.9FK	2.8F	(2.9)SF
31																								
Median	2.8	2.8	2.8	2.8	2.8	3.0	3.0	3.0	2.9	2.9	(2.8)	2.7	2.7	2.7	2.8	2.8	2.8	2.8	2.9	(3.0)	(2.9)	(2.8)	(2.8)	(2.8)
Count	30	29	30	27	29	27	30	27	27	29	30	29	29	29	30	29	29	29	28	30	30	30	30	30

Sweep 1.0Mc to 25.0Mc in 30 seconds (June 1 through 1200, June 7), in 15 seconds (1215, June 7 through June 30).

Manual ☐ Automatic ☒

U S GOVERNMENT PRINTING OFFICE 1946 O - 702519

TABLE 61

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

Form adopted June 1946

IONOSPHERIC DATA

(M3000)F1 (Characteristic), ______ (Unit), June (Month), 1950

Observed at Washington, D.C.

Lat. 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: B.E.B., By. H., McC.

Calculated by: By. H., B.E.B., McC., D.S., A.H.M.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						L	L	3.4	3.8	(3.9)A	(3.9)H	(3.8)A	A	3.5	N	(3.8)H	3.7	L	A					
2						L	L	L	3.8	3.6	3.6	A	(4.0)H	3.9	3.6	3.4	(3.4)P	(3.4)P	L					
3							L	L	(3.5)P	3.6	3.4	3.5	3.6	3.5	3.6	3.5	3.6	3.3	L					
4							(3.5)P	L	3.3	3.6H	3.6	3.6	3.6	3.6	3.4	3.5	L	L	L					
5							Q	L	3.8	3.6	3.7	3.7H	3.8	(3.5)P	3.5	3.6H	3.4	L	L					
6							3.0FK	3.4K	3.5K	3.6K	3.6K	(4.0)SK	3.7K	3.7K	3.7K	3.5K	3.5K	3.4K	LK					
7							Q	3.3	3.5	3.6H	3.7H	A	3.5	3.8	3.4	3.6	3.5	L	L					
8							L	A	3.7	L	(3.4)H	A	(3.7)H	3.5	3.5	3.4	3.5	(3.3)PK	LK					
9						LK	LK	3.4K	3.4K	3.7K	3.7FK	3.7K	3.8K	3.6K	(3.8)SK	3.5K	3.4HK	3.2HK	L					
10							3.3F	3.5	3.3F	3.5	3.7	3.6	3.6	(3.6)S	3.7	(3.6)H	M	M	Q					
11							L	L	3.4	3.8	3.7	3.9	3.9	A	3.8	3.6	3.5	A	A					
12							L	L	3.5F	3.7	(3.6)H	N	(3.8)H	(3.6)H	3.8	3.4H	A	A	L					
13							Q	Q	3.7	L	(3.7)H	N	(3.9)S	(3.7)J	(3.9)H	A	3.4	(3.8)H	L					
14							Q	(3.3)P	3.4	L	3.5	3.5	(3.8)H	N	(3.7)H	A	A	L	L					
15							L	L	L	3.6	L	A	A	AP	3.4	3.6	3.7	L	A					
16							L	L	3.9	3.6	(3.5)H	3.7F	3.5H	3.8	3.4	M	3.9	L	L					
17							3.3K	3.4K	3.6K	(3.7)PK	(3.8)SK	(3.8)HK	3.9HK	3.8K	(3.7)SK	3.6K	3.5K	3.1K	MK					
18							L	(3.8)P	S	(3.6)H	(3.8)H	(3.5)H	N	(3.9)H	A	(3.8)S	3.6	3.8	L					
19							Q	B	L	(3.8)P	(3.7)P	4.0	(3.9)H	(3.6)H	3.9	3.4	A	L	A					
20							Q	Q	N	C	3.5	(3.9)H	S	(4.0)H	(3.7)S	(3.7)P	S	3.4	A					
21							Q	L	3.4	3.8	(3.8)S	(3.9)H	3.8	3.8	(3.8)S	3.7	L	3.3	L					
22							A	AP	M	A	3.8	A	S	A	S	A	3.6	A	A					
23							L	C	N	(3.7)S	(3.7)H	NK	NK	(4.0)PK	ASK	(3.5)JK	3.6HK	(3.4)HK	(3.3)PK					
24							QK	3.6K	3.8K	4.1K	(3.7)HK	(3.1)HK	3.6K	3.8K	3.8FK	AK	3.7K	(3.4)PK	ALK					
25							(3.6)SK	(3.4)SK	3.7K	4.0FK	3.8FK	4.0K	AK	(3.9)HK	(3.8)HK	APK	3.9K	L	Q					
26							3.5K	ASK	3.6K	(3.7)HK	(4.1)SK	SK	3.5K	4.0K	(3.7)SK	(3.7)HK	3.7K	3.6K	L					
27							L	L	L	A	3.6	3.6	(4.0)F	A	3.5	3.7	3.5	(3.4)F	A					
28							Q	(3.4)P	L	3.5	A	3.9	N	(3.4)H	N	(3.4)H	3.3	L	L					
29							Q	A	AS	3.2	3.6K	3.6K	3.5K	3.4K	3.2K	3.5K	3.5K	(3.4)PK	MK					
30							2.9FK	3.4FK	3.3K	3.6K	4.1K	3.9K	3.8K	3.9K	3.9K	3.9K	3.3K	3.6K	LK					
31																								
Median							3.3	3.4	3.5	3.6	3.7	3.7	3.8	3.7	3.7	3.6	3.5	3.4	—					
Count							7	12	21	24	28	21	22	25	25	24	23	16	1					

Sweep: 1.0 Mc to 25.0 Mc in 30 seconds (June 1 through 1200, June 7), in 15 seconds (1215, June 7 through June 30)

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Form adopted June 1946

TABLE 62

Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D.C.

IONOSPHERIC DATA

(M1500)E (Characteristic), ____ (Unit), June (Month), 1950

Observed at Washington, D.C.

Lat 38.7°N, Long 77.1°W

75°W Mean Time

National Bureau of Standards (Institution)

Scaled by: B.E.B., By.H., McC.

Calculated by: By.H., B.E.B., McC., D.S., A.H.M.

Day	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1						S	3.8F	4.0F	4.2	4.4	A	A	A	A	4.1	3.9	4.2	4.2	4.2	4.1				
2						A	A	4.3	4.1	4.2	4.3	A	A	A	(4.0)A	A	4.1	4.1	4.2	3.8				
3						4.1	4.3	4.3	4.3	4.4	(4.4)B	4.2	(4.3)A	A	A	A	4.1	4.0	4.0	A				
4						A	4.2	4.2	(4.2)A	A	4.2	4.2	4.1	B	4.0	4.0	3.9	4.0	4.0	3.2				
5						A	3.9	3.9	4.1	4.1	4.2	4.1	4.1	4.1	3.9	4.0	4.2	4.0	4.2	3.7				
6						FK	3.9K	4.1K	4.1K	4.2K	4.0K	BK	AK	(4.0)PK	3.9K	4.1K	4.1K	4.0K	4.0K	A				
7						A	3.8	4.0	4.2	4.1	4.1	A	A	(4.1)A	(3.9)P	(4.0)S	3.9	4.0	4.0	A				
8						A	A	(4.1)A	4.0	4.0	4.1	A	A	A	3.9	4.0	3.8	4.0K	(4.0)AK	3.6K				
9						SK	4.1K	4.1K	3.9K	4.1K	3.9K	4.1K	4.0K	4.1K	AK	4.0K	(4.1)FK	4.0K	4.0	A				
10						4.1	3.6F	4.0F	(4.1)A	4.1	4.1	A	(4.0)A	4.1	A	4.2	M	M	A	A				
11						A	(4.0)A	(3.9)A	4.3	4.2	4.1	(4.1)F	4.2	4.2	4.2	4.1	3.9	4.0	4.0	A				
12						A	4.1	4.0	(4.2)A	A	4.2	4.3	(4.0)P	B	4.0	4.1	4.0	4.0	A	A				
13						A	A	(4.0)A	A	4.1	(4.3)A	A	A	A	A	A	A	(3.9)A	A	A				
14						A	3.6	3.7	4.1	4.1	A	4.1	4.0	(4.1)A	(4.4)A	A	A	A	(4.0)S	A				
15						(3.6)A	(4.0)A	4.0	4.1	(4.2)A	4.1	A	A	A	4.3	4.3	(4.2)A	(3.9)A	(3.9)A	A				
16						C	3.8	4.0	(4.1)A	(4.2)A	A	(4.1)A	4.1	4.2	4.3	M	4.0	(3.9)A	(4.2)A	4.1K				
17						SK	(3.8)AK	(3.9)AK	AK	4.3K	AK	AK	AK	4.3K	(4.2)SK	4.1K	4.5K	3.8K	4.0K	MAK				
18						A	4.0	4.2	4.1	A	A	4.0	3.9	3.8	3.9	4.1	4.0	4.0	4.1	4.3				
19						S	4.0	4.3	A	A	A	4.2	4.2	4.1	4.0	4.1	4.1	4.2	4.1	A				
20						S	F	F	4.1	C	A	A	A	A	4.2	4.3	(4.1)S	3.9	(3.9)S	A				
21						S	3.8	4.0	4.3	4.4	4.3	4.3	4.3	4.3	4.3	4.0	4.1	4.0	4.2	4.0				
22						A	(4.1)A	4.1	M	4.2	4.2	4.3	(4.4)A	A	A	(4.1)A	3.9	3.9	4.1	(4.2)A				
23						C	4.6	C	4.1	4.1	4.3	(4.2)AK	AK	AK	AK	4.4K	4.2K	FK	FK	4.0K				
24						FK	AK	(4.4)AK	4.4K	4.4K	(4.1)AK	4.4K	AK	(3.7)AK	(4.0)AK	AK	4.1K	AK	AK	(4.1)AK				
25						AK	(4.2)AK	4.1K	(4.2)AK	4.4K	(4.2)AK	(4.4)AK	AK	AK	3.8K	4.0K	4.3K	F	4.1	4.1				
26						CK	4.5K	4.1K	4.0K	4.2K	AK	AK	AK	(4.2)AK	AK	4.0K	4.0K	3.9K	3.1	A				
27						S	3.8	(3.8)F	(4.1)A	(4.1)A	(4.2)A	(4.1)A	A	(4.0)A	(4.1)A	4.1	4.0	3.9	(3.8)S	A				
28						A	4.0	4.0	4.2	A	A	(4.2)A	(4.2)A	A	A	(4.1)A	4.1	(4.1)A	4.0	A				
29						A	3.9	4.1	4.2	(4.1)A	4.2K	AK	AK	4.0FK	4.1K	4.2K	(4.1)PK	4.1K	MK	(3.8)PK				
30						(4.1)AK	4.0K	4.2K	3.9K	3.9K	4.2K	(4.1)PK	4.3K	4.2K	4.2K	4.1K	(4.1)SK	4.1K	4.0K	4.2K				
31																								
Median						—	4.0	4.0	4.1	4.2	4.2	4.2	4.1	4.1	4.0	4.1	4.1	4.0	4.0	4.0				
Count						4	25	28	26	24	21	18	15	17	22	24	27	25	24	14				

Sweep 1.0 Mc to 25.0 Mc in 30 seconds (June 1 through 1200, June 7), in 15 seconds (1215, June 7 through June 30).

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Table 63

Ionospheric Storminess at Washington, D. C.

June 1950

Day	Ionospheric character* 00-12 GCT	Ionospheric character* 12-24 GCT	Principal storms Beginning GCT	Principal storms End GCT	Geomagnetic character** 00-12 GCT	Geomagnetic character** 12-24 GCT
1	2	2			3	3
2	2	2			3	2
3	2	1			2	3
4	1	2			3	2
5	1	1			3	2
6	3	4	0700	2400	5	4
7	2	2			1	2
8	1	1	2200	----	1	3
9	4	4	----	2300	4	3
10	2	3			3	3
11	2	3			2	2
12	1	0			2	2
13	2	1			2	2
14	2	3			2	2
15	1	3			2	1
16	0	3			1	3
17	4	5	0000	----	3	3
18	2	3	----	0200	3	2
19	1	2			1	2
20	1	1			1	2
21	1	3			2	2
22	1	3			3	3
23	3	4	1600	----	3	4
24	4	4	----	----	5	3
25	4	4	----	2200	3	2
26	4	4	0700	2300	3	2
27	2	3			1	2
28	2	2			2	1
29	1	4	1500	----	2	4
30	5	4	----	----	5	3

*Ionosphere character figure (I-figure) for ionospheric storminess at Washington, D. C., during 12-hour period, on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

**Average for 12 hours of Cheltenham, Maryland, geomagnetic K-figures on an arbitrary scale of 0 to 9, 9 representing the greatest disturbance.

----Dashes indicate continuing storm.

Table 64

Sudden Ionosphere Disturbances Observed at Washington, D. C.

June 1950

1950 Day	GCT Beginning	GCT End	Location of transmitters	Relative intensity at minimum *	Other phenomena
June					
1	1636	1700	Ohio, D.C., England	0.1	Solar flare** 1615
1	1737	1755	Ohio, D.C., England	0.2	Solar flare** 1720
1	1803	1830	Ohio, D.C.	0.3	Solar flare*** 1818
8	1155	1210	England	0.03	
8	1415	1430	Ohio, D.C., England	0.1	Solar flare*** 1413
8	1542	1605	Ohio, D.C., England	0.05	Solar flare*** 1545
9	2003	2030	Ohio, D.C., New Brunswick	0.2	Solar flare** 2000
9	2201	2225	Ohio, D.C., New Brunswick	0.1	Solar flare** 2150
13	1913	1930	Ohio, D.C.	0.2	Solar flare** 1910
15	1403	1425	Ohio, D.C.	0.1	
15	1733	1815	Ohio, D.C., England, New Brunswick	0.0	
20	1225	1315	Ohio, D.C., England	0.1	Solar flare*** 1255

*Ratio of received field intensity during SID to average field intensity before and after, for station KQ2XAU (formerly W8XAL), 6080 kilocycles, 600 kilometers distant, for all SID except the following: Station GLH, 13525 kilocycles, received in New York, 5340 kilometers distant, was used for the SID on June 8 at 1155.

**Time of observation at the High Altitude Observatory, Boulder, Colorado.

***Time of observation at McMath-Hulbert Observatory, Pontiac, Michigan.

Table 65

Sudden Ionosphere Disturbances Reported by Engineer-in-Chief, Cable and Wireless, Ltd., as Observed in England

1950 Day	GCT Beginning	GCT End	Receiving station	Location of transmitters	Other phenomena
May 22	1610	1620	Brentwood	Bahrein I., Barbados, Chile, Colombia, New York, Portugal, Spain, Uruguay, U.S.S.R., Venezuela	Solar flare* 1600
22	1603	1615	Somerton	Argentina, Brazil, Canada, New York	Solar flare* 1600
June 15	1745	1815	Brentwood	Chile, Colombia, France, Portugal, Spain, Uruguay, Venezuela	
15	1740	1750	Somerton	Argentina, Brazil, Canada, New York	

*Time of observation at the High Altitude Observatory, Boulder, Colorado.

Note: Observers are invited to send to the CRPL information on times of beginning and end of sudden ionosphere disturbances for publication as above. Address letters to the Central Radio Propagation Laboratory, National Bureau of Standards, Washington 25, D. C.

Table 66

Sudden Ionosphere Disturbances Reported by International Telephone and Telegraph Corporation, as Observed at Platanos, Argentina

1950 Day	GCT Beginning	GCT End	Location of transmitters	Other phenomena
May 6	1339	1345	Bolivia, Brazil, Chile, Cuba, Denmark, England, Germany, Italy, New York, Peru, Switzerland, Venezuela	Solar flare* 1330 Solar flare** 1340
19	1140	1230	Belgium, Germany, Italy, Netherlands	Solar flare* 1210
22	1400	1415	Bolivia, Brazil, Chile, Cuba, Denmark, England, Germany, New York, Peru, Switzerland, Venezuela	Solar flare*** 1350 Solar flare* 1357

Time of observation:
*McMath-Hulbert Observatory, Pontiac, Michigan.
**Wendelstein Observatory, Germany.
***High Altitude Observatory, Boulder, Colorado.

Table 67

Sudden Ionosphere Disturbances Reported by Engineer-in-Chief, Cable and Wireless, Ltd., as Observed in Barbados, B.W.I.

1950 Day	GCT Beginning	GCT End	Location of transmitters	Other phenomena
May 6	1341	1355	Dominica, England, Florida, Jamaica, Trinidad	Solar flare* 1330 Solar flare** 1340
22	1400	1415	England, Florida, Jamaica, Trinidad	Solar flare*** 1350 Solar flare* 1357

Time of observation:
*McMath-Hulbert Observatory, Pontiac, Michigan.
**Wendelstein Observatory, Germany.
***High Altitude Observatory, Boulder, Colorado.

Table 68

Sudden Ionosphere Disturbances Reported by Institut für Ionosphärenforschung,

as Observed at Lindau, Harz, Germany

Day	GCT Beginning	GCT End	Location of transmitters	Relative intensity at minimum*	Other phenomena
May 1950					
3	0940	1045	Lindau#, Munchen**, Berlin***	0.0	
5	0952	1012	Lindau#, Munchen**, Berlin***	0.1	
6	1335	1420	Lindau#, Munchen**, Berlin***	0.0	
10	1035	1105	Lindau#, Munchen**, Berlin***	0.2	
18	0710	0715	Lindau#, Munchen**	0.5	
19	0935	0945	Lindau#, Munchen**	0.6	
	1120	1215	Lindau#, Munchen**, Berlin***	0.1	
20	0940	1005	Munchen**	0.1	
	1205	1210	Munchen**	0.4	
	1345	1420	Munchen**	0.3	
21	0915	0930	Lindau#, Munchen**	0.3	
22	0720	0730	Lindau#, Munchen**	0.4	
	0935	0950	Lindau#, Munchen**	0.1	
	1130	1145	Lindau#, Munchen**, Berlin***	0.3	
	1400	1410	Lindau#, Munchen**, Berlin***	0.2	
	1605	1612	Lindau#, Munchen**, Berlin***	0.3	
23	1050	1100	Lindau#, Munchen**	0.6	
	1112	1128	Lindau#, Munchen**	0.3	
	1150	1210	Lindau#, Munchen**	0.1	
	1428	1435	Munchen**	0.6	
	1538	1543	Munchen**	0.6	

*Ratio of received field intensity during SID to average field intensity before and after, for station Voice of America, 6078.9 kilocycles, 400 kilometers distant.

**Station Voice of America, 6078.9 kilocycles.

***Station DAB, 3840 kilocycles, 200 kilometers distant.

#Lindau station, 1870 kilocycles, pulse, transmitter and receiver at Lindau.

Table 69

Provisional Radio Propagation Quality Figures
(Including Comparisons with CRPL Warnings and Forecasts)
May 1950

Day	North Atlantic quality figure, Half day GCT (1)	(2)	CRPL* Warning, Half day GCT (1)	(2)	CRPL** Forecasts (J-reports)	North Pacific quality figure, Half day GCT (1)	(2)	Geo-mag-netic K_{Ch}, Half day GCT (1)	(2)
1	6	6	W			8	6	1	2
2	7	6				8	6	2	3
3	5	5	W	W		6	5	(4)	(4)
4	5	6	W	W		7	6	3	3
5	5	5	W	W		6	5	3	2
6	6	5	U	U		6	6	3	2
7	6	6	U	U		6	7	3	2
8	7	6				7	7	2	2
9	7	7				8	7	1	1
10	6	6				8	7	2	2
11	6	6	W	U		7	6	3	3
12	7	6	U			7	6	2	1
13	6	6				7	6	3	3
14	5	6	W	U		7	5	3	3
15	5	6	U			7	6	(4)	3
16	6	5	U			7	6	3	2
17	7	6				7	6	2	1
18	6	6				7	7	1	1
19	7	6				7	5	1	1
20	7	6				7	7	2	2
21	6	6				7	7	2	2
22	6	5				7	6	2	(4)
23	5	5	W	W	X	5	5	(4)	(4)
24	5	5	W		X	6	7	3	2
25	6	5				7	7	2	3
26	6	6				6	5	(4)	3
27	5	(4)		W	X	6	5	3	(5)
28	(2)	(4)	W	W	X	5	5	(6)	3
29	5	(4)	U	U		6	6	(4)	3
30	5	5	U			7	6	(4)	3
31	5	(4)				6	6	2	2

Score:	Warning N.A.	Warning N.P.	Forecast N.A.	Forecast N.P.
H	8	1	3	0
(M)	0	0	0	0
M	1	0	2	0
G	34	35	52	54
O	19	26	5	8

*Broadcast on WWV, Washington, D.C. Times of warnings recorded to nearest half day as broadcast. ( ) broadcast for one-quarter day. Blanks signify N.

**In addition to dates marked X, the following were designated as probable disturbed days on forecast more than eight days in advance of said dates: May 20, 21, 26, 30, and 31.

Scales:

Quality Figures
- (1)- Useless
- (2)- Very poor
- (3)- Poor
- (4)- Poor to fair
- 5 - Fair
- 6 - Fair to good
- 7 - Good
- 8 - Very good
- 9 - Excellent

Geomagnetic K_{Ch} - 0 to 9, 9 representing the greatest disturbance; $K_{Ch} \geq 4$ indicates significant disturbance, enclosed in ( ) for emphasis.

Symbols:
- W Disturbed conditions expected
- U Unstable conditions expected
- N No disturbance expected
- X Probable disturbed date

Scoring:
- H Storm ($Q \leq 4$) hit
- (M) Storm severer than predicted
- M Storm missed
- G Good day forecast
- O Overwarning

Scoring by half day according to following table:

	Quality Figure ≤ 3	4	5	≥ 6
W	H	H	O	O
U	(M)	H	H	O
N	M	M	G	G
X	H	H	O	O

Table 70

American and Zürich Provisional Relative Sunspot Numbers

June 1950

Date	R_A*	R_Z**	Date	R_A*	R_Z**
1	112	72	17	98	83
2	113	84	18	92	80
3	104	84	19	79	80
4	84	66	20	71	66
5	67	58	21	86	55
6	62	54	22	106	86
7	63	50	23	114	107
8	77	70	24	140	108
9	101	65	25	153	128
10	107	108	26	141	113
11	97	102	27	100	97
12	91	72	28	75	74
13	121	95	29	86	82
14	129	101	30	88	78
15	116	94			
16	106	84	Mean:	99.3	83.2

*Combination of reports from 45 observers; see page 8.

**Dependent on observations at Zürich Observatory and its stations at Locarno and Arosa.

Table 71a

Coronal observations at Climax, Colorado (5303A), east limb

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
Jun. 1.6	-	-	-	1	-	-	1	2	7	10	4	4	5	10	12	14	17	22	18	15	8	3	2	2	3	2	2	-	-	-	-	-	-	-	-	-	-
2.6	-	-	-	-	-	-	-	4	4	4	5	5	7	10	11	14	14	17	14	11	5	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7	-	-	-	-	-	1	2	3	4	7	10	9	10	12	15	22	23	15	12	9	8	4	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-
5.6	-	1	1	1	1	2	3	4	7	9	10	13	13	17	20	23	25	16	12	11	12	10	6	6	4	4	5	5	4	4	4	2	1	1	1	-	-
6.6	-	-	-	-	-	-	1	2	4	5	6	11	13	13	14	16	15	11	7	8	7	5	4	9	6	4	3	3	3	3	2	2	-	-	-	-	-
7.6	-	-	-	-	-	-	2	3	4	4	7	12	13	13	13	12	10	8	5	4	6	10	10	10	9	5	4	3	3	3	3	2	2	2	-	-	-
8.7a	-	-	-	-	-	-	-	2	4	4	5	9	11	11	9	8	4	4	4	3	3	6	9	10	5	6	5	2	-	-	-	-	-	-	-	-	-
9.6	-	-	-	-	-	-	-	2	4	3	4	4	4	5	4	4	4	3	2	2	4	10	11	10	9	6	2	2	-	-	-	-	-	-	-	-	-
10.7	-	-	-	-	-	-	3	4	4	4	6	6	8	10	8	6	6	4	3	5	8	11	12	11	10	6	4	3	1	1	1	-	-	-	-	-	-
11.7	-	-	-	-	-	-	4	5	4	4	4	9	10	16	18	13	11	9	7	7	12	16	17	11	10	9	6	2	2	1	2	3	1	-	-	-	-
12.7	-	-	-	-	-	2	4	4	3	4	5	9	13	21	17	11	10	7	6	7	11	26	19	13	12	9	6	3	3	3	4	3	3	2	1	-	-
13.8	-	-	-	-	2	2	4	5	5	5	6	9	13	17	20	15	15	14	11	10	12	18	17	12	12	9	9	4	2	2	3	4	3	-	-	-	-
14.7	-	-	-	-	-	2	3	3	4	3	2	2	8	14	13	13	13	11	9	9	10	14	13	10	7	8	5	3	2	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	2	3	4	3	3	4	6	11	11	13	13	11	11	10	9	10	11	9	4	3	2	2	-	-	-	-	-	-	-	-	-
16.7a	-	-	-	-	-	2	3	2	2	3	2	3	4	5	6	10	10	9	6	8	5	6	4	6	3	-	-	-	-	-	-	-	-	-	-	-	-
17.6	-	-	-	-	-	-	2	3	4	4	5	6	9	10	11	12	12	11	8	8	8	9	10	9	6	2	-	-	-	-	-	-	-	-	-	-	-
18.6	-	-	-	-	-	2	2	3	4	4	7	10	9	10	12	11	11	12	10	10	8	10	10	10	8	6	-	-	-	-	-	-	-	-	-	-	-
19.7	-	-	-	-	-	-	-	2	2	4	4	6	7	9	11	10	10	9	7	7	4	5	8	6	2	2	-	-	-	-	-	-	-	-	-	-	-
20.9	-	-	-	-	-	-	-	2	3	4	5	7	10	12	14	16	16	13	13	10	9	9	9	4	3	2	2	-	-	-	-	-	-	-	-	-	-
21.6	-	-	-	-	-	-	-	-	2	3	4	5	9	10	12	12	14	14	12	9	7	7	4	4	3	2	1	1	-	-	-	-	-	-	-	-	-
23.6	-	-	-	-	-	-	-	2	2	4	8	9	8	7	4	5	9	9	5	5	4	3	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-
24.6	-	-	-	-	-	-	2	2	3	4	11	12	10	9	9	9	11	10	10	10	11	10	9	9	4	4	3	2	1	-	-	-	-	-	-	-	-
25.7	-	-	-	-	-	-	-	-	-	4	7	9	8	9	6	6	6	8	10	8	11	14	8	8	3	3	2	1	-	-	-	-	-	-	-	-	-
26.6	-	-	-	-	-	-	1	3	4	7	11	10	10	12	11	12	13	13	12	10	12	11	8	6	3	2	-	-	-	-	-	-	-	-	-	-	-
27.6	-	-	-	-	-	-	-	2	2	3	7	7	8	9	12	13	12	13	12	11	8	6	5	3	-	-	-	-	-	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	3	6	5	5	7	8	8	9	10	10	10	9	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.7a	-	-	-	-	-	-	-	-	-	-	-	3	3	2	5	8	8	7	7	4	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.6	-	-	-	-	-	-	3	2	2	4	2	3	4	9	11	16	15	11	10	4	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 72a

Coronal observations at Climax, Colorado (6374A), east limb

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
Jun. 1.6	-	-	2	2	3	3	-	-	-	-	-	-	1	2	4	5	9	7	12	16	9	5	2	3	3	1	1	-	-	-	-	-	-	-	-	-	-
2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	8	10	10	4	10	11	6	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7	-	-	-	-	-	-	-	-	-	-	-	-	2	4	5	6	9	7	7	11	13	6	7	3	2	2	-	-	-	-	-	-	-	-	-	-	-
5.6	2	2	1	2	2	2	1	2	1	-	-	2	2	4	11	6	10	3	2	4	10	3	2	2	3	2	2	-	-	1	-	-	2	1	2	-	-
6.6	1	-	2	1	1	-	-	-	-	-	-	-	2	2	2	4	7	10	2	2	4	4	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	2	1	2	4	4	3	-	-	-	-	-	-	-	-	-	-	-	-	-
8.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	1	1	-	-	-	-	-	-	-	-	-	-	-
9.6	-	-	-	-	-	-	-	-	-	-	-	1	1	2	2	-	-	-	-	-	-	3	9	5	-	-	-	-	-	-	-	-	-	-	-	-	-
10.7	-	-	-	-	-	-	-	-	-	-	-	3	2	4	6	11	5	2	1	1	5	9	9	5	4	3	-	-	-	-	-	-	-	-	-	-	-
11.7	2	2	1	2	2	1	-	-	-	-	-	-	3	6	19	7	10	-	3	3	8	14	4	5	2	-	-	-	-	-	-	-	-	-	-	-	-
12.7	-	-	-	-	-	-	-	-	-	-	-	-	-	10	15	17	9	11	4	-	9	14	5	2	-	-	-	-	-	-	-	-	-	-	-	-	-
13.8	1	2	2	2	2	2	2	-	-	-	-	-	2	12	12	13	15	13	9	4	13	10	8	6	3	-	-	-	-	-	-	-	-	-	-	-	-
14.7	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	7	10	13	9	9	9	10	8	6	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	4	15	13	5	-	5	-	4	4	-	2	2	2	3	3	-	-	-	-	-	-	-
16.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.6	-	-	1	2	2	2	3	2	-	-	-	-	-	-	1	2	3	10	2	3	4	2	6	2	1	2	3	1	3	1	-	-	-	-	-	-	-
18.6	-	-	1	2	1	1	2	1	1	1	2	2	2	3	3	2	10	4	3	-	3	2	12	2	3	3	3	2	-	-	-	-	-	-	-	-	-
19.7	2	-	-	-	-	-	-	-	-	-	-	2	2	1	6	4	11	10	7	5	4	5	5	3	3	3	3	-	-	-	-	-	-	-	-	7	-
20.9	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	13	11	12	14	8	-	3	7	4	4	4	3	2	-	-	-	-	-	-	-	-	-
21.6	-	-	-	-	-	-	-	-	-	-	-	1	2	5	7	12	13	14	18	-	2	3	2	2	3	3	3	3	-	-	-	-	-	-	-	-	-
23.6	1	2	-	-	-	-	-	-	3	2	2	3	-	-	-	-	4	4	4	3	3	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-
24.6	2	2	2	2	2	2	2	1	1	1	1	1	1	1	3	3	2	5	-	-	4	12	4	3	3	2	3	3	2	2	3	4	2	-	-	-	-
25.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	5	8	-	-	12	12	-	-	-	-	-	5	3	2	3	4	-	-	-	-	-
26.6	2	2	1	-	-	-	2	2	3	2	3	3	-	-	4	10	11	10	4	4	5	10	3	2	3	2	2	2	2	2	3	-	1	2	-	2	1
27.6	-	-	-	-	-	-	-	-	-	2	-	-	-	3	9	11	8	2	3	3	3	4	4	2	3	3	3	-	-	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	-	-	-	-	4	2	7	9	9	2	4	4	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	3	5	8	8	4	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.6	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	8	5	2	2	2	3	4	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-

Table 71b

Coronal observations at Climax, Colorado (5303A), west limb

Date	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
Jun. 1.6	-	-	1	3	5	5	3	2	4	4	6	9	10	10	13	14	14	14	17	18	16	18	14	12	9	4	5	5	6	5	4	1	-	-	-	-	-
2.6	-	-	-	-	-	-	-	-	-	-	-	-	5	7	10	11	12	13	13	14	15	14	13	10	8	4	4	5	5	4	2	-	-	-	-	-	-
4.7	-	-	-	-	-	-	-	-	-	-	-	4	8	12	15	15	12	11	12	13	13	13	13	12	10	10	10	10	7	5	2	2	2	-	-	-	-
5.6a	-	-	-	-	-	-	-	-	-	-	3	9	11	13	18	17	14	13	14	14	18	24	20	14	14	13	13	12	10	8	3	1	-	-	-	-	-
6.6	-	-	-	-	-	1	-	1	1	1	1	4	9	11	12	14	13	12	14	16	17	26	19	13	15	13	13	12	10	8	2	-	-	-	-	-	-
7.6	-	-	-	-	-	-	-	-	-	-	4	4	4	6	9	9	9	9	12	14	15	16	15	13	14	14	13	12	10	8	2	1	-	-	-	-	-
8.7a	-	-	-	-	-	-	-	-	-	-	-	3	4	5	5	4	5	7	9	9	12	12	13	11	11	12	11	7	4	3	-	-	-	-	-	-	-
9.6	-	-	-	-	-	-	-	-	-	-	2	4	6	6	7	9	9	9	9	13	12	13	11	12	10	11	12	10	4	3	-	-	-	-	-	-	-
10.7a	-	-	-	-	-	-	-	-	-	2	4	4	6	9	12	11	11	9	9	14	15	12	13	11	12	12	11	10	3	3	-	-	-	-	-	-	-
11.7	-	-	-	-	-	-	-	-	-	-	-	4	6	13	13	14	15	13	11	12	14	13	12	12	12	10	10	9	4	3	2	-	-	-	-	-	-
12.7	-	-	-	-	-	-	-	-	-	-	-	2	5	8	10	9	14	14	12	13	15	14	14	13	8	8	11	12	6	4	2	1	-	-	-	-	-
13.8	-	-	-	-	-	-	-	-	-	-	-	3	5	4	10	11	14	17	19	20	24	22	20	17	10	6	9	13	10	4	2	-	-	-	-	-	-
14.7	-	-	-	-	-	-	-	-	-	-	2	2	1	3	3	3	7	15	18	24	24	18	18	14	12	8	8	10	11	5	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	2	3	1	3	2	2	3	4	5	5	5	12	20	30	25	23	24	15	13	10	7	9	12	7	-	-	-	-	-	-	-
16.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	3	5	8	12	16	16	16	11	8	4	4	5	4	3	-	-	-	-	-	-	-
17.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	5	8	11	15	20	25	15	13	9	6	4	2	-	-	-	-	-	-	-	-	-
18.6	-	-	-	-	-	1	2	2	3	5	4	3	4	5	4	5	6	7	10	12	17	19	16	14	12	9	7	5	4	2	-	-	-	-	-	-	-
19.7	-	-	-	-	-	2	2	2	4	4	6	10	7	7	4	3	4	5	5	10	12	13	11	11	9	7	5	4	4	2	-	-	-	-	-	-	-
20.9	-	-	-	-	-	X	X	X	X	X	4	4	3	11	10	9	8	3	4	7	8	8	9	9	4	2	5	2	4	3	-	X	X	X	X	X	X
21.6	-	-	-	1	1	1	1	2	1	4	8	8	8	12	16	13	10	3	1	6	7	6	8	8	8	7	6	4	4	3	1	1	-	-	-	-	-
23.6	-	-	-	-	-	-	-	-	1	2	6	8	11	12	14	13	12	9	4	5	5	7	5	8	9	8	4	4	2	2	2	-	-	-	-	-	-
24.6	-	-	-	1	2	2	3	4	4	4	9	11	13	16	26	25	14	8	9	9	10	10	16	17	11	10	8	9	7	6	4	-	-	-	-	-	-
25.7	-	-	-	2	2	2	2	3	5	3	5	4	5	12	18	16	11	3	3	4	5	10	16	15	10	7	4	2	2	2	1	-	-	-	-	-	-
26.6	-	-	-	1	2	3	3	4	3	4	5	9	12	14	22	17	13	4	3	5	10	14	15	18	13	10	5	3	4	4	3	-	-	-	-	-	-
27.6	-	-	-	1	2	3	1	2	3	3	2	4	5	7	7	8	6	5	9	12	10	13	13	13	12	7	8	5	3	2	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	-	-	-	3	3	3	4	5	4	5	6	7	9	10	9	8	7	5	4	-	-	-	-	-	-	-	-	-	-
29.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	4	4	5	5	3	4	8	9	11	9	8	6	8	4	2	-	-	-	-	-	-	-	-	-
30.6	-	-	-	-	-	-	-	-	-	-	-	-	3	5	5	5	5	4	4	9	13	14	12	10	8	7	3	-	-	-	-	-	-	-	-	-	-

Table 72b

Coronal observations at Climax, Colorado (6374A), west limb

Date	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
Jun. 1.6	-	-	-	-	-	-	-	2	2	1	-	-	1	2	4	4	7	10	10	11	11	8	6	-	1	2	-	-	-	-	-	-	-	-	-	-	-
2.6	-	-	-	-	-	-	-	-	-	-	2	2	1	1	3	1	2	4	6	5	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7	-	-	-	-	-	-	-	-	-	-	-	-	3	4	7	7	7	3	3	7	9	9	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6a	-	2	2	2	2	2	2	3	1	1	-	2	4	7	11	5	8	5	4	6	10	9	12	-	2	-	-	-	2	3	2	2	3	3	1	1	2
6.6	-	-	-	-	-	-	-	-	-	-	2	2	3	3	13	4	3	6	4	3	6	10	9	3	4	-	-	-	-	-	1	2	2	1	1	-	1
7.6	-	-	-	-	-	-	-	-	-	-	1	2	2	2	4	6	5	3	11	9	12	13	8	4	1	-	-	-	-	-	-	-	-	-	-	-	-
8.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	1	3	3	13	9	5	2	-	-	2	-	-	-	-	-	-	-	-	-	-
9.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	1	2	4	12	11	9	9	-	-	4	-	-	-	-	-	-	-	-	-	-
10.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	5	-	-	5	7	11	4	9	-	-	4	-	3	-	-	-	-	-	-	-	-	-
11.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	9	10	5	2	3	10	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
12.7	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	-	11	5	-	4	9	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.8	-	-	-	2	2	2	2	2	2	2	3	1	2	4	4	9	6	14	10	11	13	5	7	3	-	-	-	-	-	-	-	-	-	-	-	-	-
14.7	-	-	-	-	-	-	-	-	-	-	-	3	5	2	2	2	7	14	16	20	9	10	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	4	3	3	8	8	9	10	10	11	14	13	4	6	-	-	-	-	-	-	-	-	-	-	-	-	-
16.7a	-	-	-	-	-	-	-	-	-	-	-	4	5	3	4	3	5	8	4	3	14	11	7	5	-	-	-	-	-	-	-	-	-	-	-	-	-
17.6	-	-	-	-	-	-	-	-	-	-	5	4	3	2	2	3	4	10	3	2	9	15	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.6	-	-	-	-	-	-	-	-	2	2	2	2	3	2	3	1	3	2	2	4	9	15	10	3	3	2	-	-	-	-	-	-	2	1	2	2	1
19.7	-	-	3	3	2	2	2	-	-	-	-	4	3	6	2	2	-	-	-	3	3	3	3	2	3	2	-	-	-	-	-	3	2	-	2	2	2
20.9	-	-	-	-	-	X	X	X	X	-	-	-	3	13	9	3	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	X	X	X	X	X	X
21.6	-	-	-	-	-	-	-	2	3	2	3	2	8	16	11	13	9	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.6	-	-	-	-	-	-	3	2	2	-	3	-	-	-	10	12	4	-	-	-	2	2	2	2	-	-	-	-	-	-	-	-	2	2	2	-	1
24.6	-	3	2	2	2	3	3	2	3	3	1	2	3	9	17	11	12	5	6	4	3	13	8	4	5	3	-	-	-	-	-	-	2	2	3	2	3
25.7	-	-	-	-	-	-	-	-	-	-	-	2	3	3	12	6	12	9	3	5	8	6	13	9	-	-	-	-	-	-	-	-	-	-	-	-	-
26.6	1	2	2	3	3	-	1	-	-	-	-	-	5	11	12	10	10	5	9	8	11	13	13	14	-	-	-	-	-	-	-	-	-	-	-	1	2
27.6	-	-	-	-	-	-	-	-	-	-	2	2	2	4	5	6	2	3	3	9	8	9	12	10	3	-	-	-	-	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	3	5	2	3	-	-	-	-	-	-	-	-	-	-	-	-
29.7a	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	4	3	-	-	2	7	10	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.6	-	-	2	3	2	-	-	-	-	-	-	-	-	4	4	4	2	3	5	9	10	11	3	-	-	-	2	-	-	-	-	-	-	-	-	-	-

Table 73a

Coronal observations at Climax, Colorado (6702A), east limb

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
Jun. 1.6	-	-	-	1	1	1	1	-	1	-	1	2	2	2	3	3	3	4	4	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.6	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	2	3	3	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4	4	4	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6	-	-	-	-	-	-	-	-	-	-	-	-	1	2	4	4	4	4	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.6	-	-	-	-	-	-	-	-	-	1	1	1	2	3	4	4	4	2	1	2	2	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-	-
7.6	-	-	-	-	-	-	-	-	-	-	-	2	1	2	2	1	1	1	-	-	2	2	3	2	2	1	1	-	-	-	-	-	-	-	-	-	-
8.7a	-	-	-	-	-	-	-	-	-	-	-	-	1	2	1	2	-	1	-	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
9.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-
10.7	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	1	1	1	-	1	2	3	3	2	1	1	-	-	-	-	-	-	-	-	-	-	-
11.7	-	-	-	-	-	-	-	-	2	1	-	-	3	4	2	2	1	2	-	-	2	4	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-
12.7	-	-	-	-	-	-	-	-	-	-	-	3	2	5	5	3	2	1	1	-	2	5	6	3	2	1	1	-	-	-	-	-	-	-	-	-	-
13.8	-	-	-	-	-	-	-	-	-	-	-	2	4	5	5	4	3	-	-	-	1	3	4	3	2	-	-	-	-	-	-	-	-	-	-	-	-
14.7	-	-	-	-	-	-	-	-	-	-	2	2	2	3	4	3	2	2	2	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3	4	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.7a	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	3	2	2	1	1	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.6	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	3	2	2	1	1	-	2	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-
18.6	-	-	-	-	-	-	-	-	-	-	-	-	2	3	4	3	2	2	1	1	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-
19.7	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	3	2	1	-	2	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
20.9	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	2	3	3	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
21.6	-	-	-	-	-	-	-	-	-	-	-	1	2	3	3	4	3	4	3	3	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
23.6	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.6	-	-	-	-	-	-	-	-	-	-	2	1	2	1	2	2	3	3	3	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25.7	-	-	-	-	-	-	-	-	-	-	2	2	3	4	4	3	2	2	1	1	1	1	-	2	2	2	1	1	-	-	-	-	-	-	-	-	-
26.6	-	-	-	-	-	-	-	-	-	2	2	2	3	3	2	2	2	1	2	-	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.6	-	-	-	-	-	-	-	-	-	-	2	3	3	3	3	4	4	4	4	3	4	2	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	-	-	-	2	2	3	3	3	3	2	2	2	3	3	3	3	2	-	-	-	-	-	-	-	-	-	-	-	-
29.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	4	4	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 74a

Coronal observations at Sacramento Peak, New Mexico (5303A), east limb

Date	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
May 1.9	-	-	-	-	-	-	-	-	-	7	9	10	17	17	17	17	18	15	10	12	19	20	18	21	15	8	6	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	-	-	4	9	20	21	18	15	16	19	22	21	18	20	22	23	23	21	19	12	10	5	4	-	-	-	-	-	-	-	-
3.7	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
5.7	-	-	-	-	-	-	-	8	12	16	15	11	15	17	25	33	33	33	20	12	12	8	7	7	7	6	6	6	6	6	-	-	-	-	-	-	-
6.7	-	-	-	-	-	-	4	6	15	20	19	18	23	28	30	40	40	37	25	25	18	11	8	5	4	4	9	12	11	10	8	8	6	6	5	-	-
7.6	-	-	-	-	-	-	3	6	14	16	15	18	30	33	31	39	36	35	30	30	16	11	8	6	6	6	7	9	8	7	6	4	3	3	-	-	-
9.7	-	-	-	-	-	-	3	5	12	14	12	15	25	38	38	41	43	40	38	16	15	17	6	5	5	5	7	9	8	8	7	7	6	5	4	4	3
11.7	-	-	-	-	-	-	-	-	6	7	7	8	14	28	17	28	15	12	10	9	7	6	-	-	-	-	6	7	6	-	-	-	-	-	-	-	-
13.7	-	-	-	-	-	-	-	5	6	8	10	16	18	15	15	13	10	9	6	8	5	8	10	8	6	5	5	5	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	7	8	10	11	12	12	10	9	7	6	8	10	11	20	33	25	15	11	8	7	-	-	-	-	-	-	-	-	-
16.8	-	-	-	-	-	-	-	-	-	-	11	12	11	-	-	-	-	-	12	12	15	22	31	25	17	12	10	-	-	-	-	-	-	-	-	-	-
17.7	-	-	-	-	-	-	-	-	-	-	-	-	-	7	8	9	8	7	7	10	14	20	32	31	13	8	7	-	-	-	-	-	-	-	-	-	-
18.7	-	-	-	-	-	4	5	7	7	9	9	7	7	11	13	15	20	15	16	21	28	33	38	38	15	11	12	9	6	5	-	-	-	-	-	-	-
25.6	-	-	-	-	-	-	-	4	6	10	12	24	33	20	22	22	16	12	13	7	9	10	12	9	6	5	5	4	-	-	-	-	-	-	-	-	-
27.8	-	-	-	-	-	-	-	-	-	7	8	12	14	15	17	21	14	12	10	8	7	10	12	10	9	8	7	-	-	-	-	-	-	-	-	-	-
28.8	-	-	-	-	-	-	-	-	-	5	7	12	13	15	15	14	13	10	12	13	13	14	15	14	12	5	-	-	-	-	-	-	-	-	-	-	-
29.7	-	-	-	-	-	-	-	5	7	12	16	21	20	19	20	21	20	19	14	17	16	16	17	13	9	5	-	-	-	-	-	-	-	-	-	-	-
30.6	-	-	-	-	-	-	3	4	7	17	25	23	18	15	26	38	38	35	33	30	28	24	18	16	17	12	7	4	3	-	-	-	-	-	-	-	-

Table 73b

Coronal observations at Climax, Colorado (6702A), west limb

Date	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
Jun. 1.6	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	2	3	3	2	2	3	3	3	2	2	1	-	-	-	-	-	-	-	-	-	-
2.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	1	1	-	1	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-
4.7	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	-	1	2	2	-	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
5.6a	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	-	-	1	1	2	3	4	2	2	2	3	1	-	-	-	-	-	-	-	-	-
6.6	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	2	1	1	1	2	3	3	2	2	2	1	3	2	-	-	-	-	-	-	-	-	-
7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	2	2	3	3	2	2	2	2	2	1	-	-	-	-	-	-	-	-
8.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	1	1	1	1	1	1	2	1	1	-	-	-	-	-	-	-	-
9.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	1	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
10.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	1	1	1	1	2	1	1	-	-	-	-	-	-	-	-
11.7	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	2	1	2	1	1	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-
12.7	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	3	3	3	3	3	3	2	3	2	1	2	1	-	-	-	-	-	-	-	-	-	-
13.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	2	2	1	1	1	2	3	3	1	1	-	-	-	-	-	-	-	-	-
14.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	2	2	3	2	3	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	4	3	3	3	1	1	-	-	-	-	-	-	-	-	-	-	-
16.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	2	2	3	2	4	4	2	2	1	-	-	-	-	-	-	-	-	-	-	-
17.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	4	4	5	3	3	2	2	-	-	-	-	-	-	-	-	-	-
18.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	3	3	4	4	2	2	-	-	-	-	-	-	-	-	-	-	-	-
19.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3	3	3	3	3	3	2	1	-	-	-	-	-	-	-	-	-	-	-
20.9	-	-	-	-	-	X	X	X	X	X	-	-	-	-	-	-	-	-	-	2	1	2	2	3	1	2	1	-	-	-	-	-	X	X	X	X	X
21.6	-	-	-	-	-	-	-	-	-	-	-	2	3	4	4	3	3	1	-	-	-	2	1	1	2	-	-	-	-	-	-	-	-	-	-	-	-
23.6	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
24.6	-	-	-	-	-	-	-	-	-	-	1	2	2	3	3	4	3	2	2	-	-	-	2	3	2	-	-	-	-	-	-	-	-	-	-	-	-
25.7	-	-	-	-	-	-	-	-	-	-	2	2	3	3	4	4	3	2	1	-	-	2	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
26.6	-	-	-	-	-	-	-	-	-	-	1	1	1	3	2	3	1	-	-	2	1	2	4	3	2	-	-	-	-	-	-	-	-	-	-	-	-
27.6	-	-	-	-	-	-	-	-	-	-	-	1	2	2	2	-	-	-	-	2	2	3	3	2	1	1	-	-	-	-	-	-	-	-	-	-	-
28.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	3	3	2	1	-	-	-	-	-	-	-	-	-	-	-	-
29.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-
30.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-

Table 74b

Coronal observations at Sacramento Peak, New Mexico (5303A), west limb

Date	Degrees south of the solar equator																		0°	Degrees north of the solar equator																	
GCT	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
May 1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	6	10	13	18	19	12	10	10	12	13	14	15	14	14	12	10	7	6	-	-	-	-	-	-
2.7	-	-	-	-	5	6	6	5	5	5	6	6	8	12	17	25	35	30	13	10	12	11	10	9	10	11	12	13	8	6	5	3	-	-	-	-	-
3.7	-	-	-	-	-	-	-	-	-	-	6	6	8	14	20	31	29	23	16	15	15	15	15	16	15	12	12	12	10	8	7	6	-	-	-	-	-
5.7	-	-	-	-	-	-	-	-	-	5	6	7	9	12	20	35	39	35	28	25	23	23	24	22	15	11	9	8	7	7	5	5	-	-	-	-	-
6.7	-	-	-	-	-	-	-	-	-	6	7	8	12	19.	35	41	43	40	38	37	36	38	38	38	35	32	27	20	18	15	10	6	5	5	-	-	-
7.6	-	-	-	-	-	-	-	-	-	-	3	5	12	26	32	36	38	30	22	24	26	26	26	28	31	31	22	20	16	12	5	3	-	-	-	-	-
9.7	3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
11.7	-	-	-	-	-	-	-	-	-	-	-	-	-	6	8	11	12	13	10	10	17	20	23	23	18	20	23	20	13	10	-	-	-	-	-	-	-
13.7	-	-	-	-	-	-	-	-	-	5	7	9	11	12	18	22	21	19	12	12	13	19	23	25	14	16	20	12	6	4	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	6	9	11	13	15	15	13	12	13	13	15	15	13	12	13	11	9	7	6	-	-	-	-	-	-
16.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	10	12	15	18	20	20	21	20	18	16	13	15	16	14	12	-	-	-	-	-	-
17.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	8	8	9	11	15	18	18	17	16	15	12	10	11	12	8	-	-	-	-	-	-	-
18.7	-	-	-	-	-	-	-	-	-	-	-	-	5	5	5	5	6	14	40	31	33	37	38	37	25	20	15	16	19	14	4	-	-	-	-	-	-
25.6	-	-	-	-	-	-	-	4	4	4	4	4	-	-	-	4	4	4	5	7	12	12	14	16	21	20	25	14	9	8	5	-	-	-	-	-	-
27.8	-	-	-	-	-	-	-	-	-	-	-	-	-	8	11	22	24	9	7	7	7	8	8	9	12	12	11	10	8	7	6	-	-	-	-	-	-
28.8	-	-	-	-	-	-	-	-	-	-	-	5	7	12	15	25	26	16	11	10	11	12	13	15	17	16	12	10	8	6	5	-	-	-	-	-	-
29.7	-	-	-	-	-	-	-	-	-	-	4	5	7	14	20	25	28	21	14	11	13	15	17	21	32	20	16	13	7	5	5	-	-	-	-	-	-
30.6	-	-	-	-	4	4	4	4	6	7	9	11	13	20	23	37	31	20	16	13	15	17	27	29	29	29	18	15	13	7	5	3	3	-	-	-	-

Table 75a

Coronal observations at Sacramento Peak, New Mexico (6374A), east limb

Date GCT	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
May 1.9	4	4	4	-	-	-	-	-	4	4	4	4	-	-	-	4	11	5	9	4	5	6	10	7	4	-	4	4	4	-	-	-	-	-	-	-	-
2.7	3	4	4	3	2	2	2	2	3	3	2	2	2	1	2	4	12	10	11	3	3	4	10	8	3	2	2	2	5	5	3	2	2	2	2	2	2
3.7	2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	3	4	4	3
5.7	3	3	-	-	-	-	3	4	4	3	2	-	-	-	2	8	11	16	13	7	6	3	3	2	2	2	2	2	-	-	-	-	-	-	-	-	-
6.7	6	6	5	4	3	3	3	6	8	6	4	3	2	2	3	4	8	16	12	10	10	9	10	9	7	5	4	3	2	2	2	2	2	2	3	2	2
7.6	5	4	3	3	3	3	4	6	4	5	3	2	-	-	3	13	10	15	12	8	6	6	8	7	6	4	3	2	2	2	-	-	-	-	-	-	-
9.7	5	4	4	4	4	3	6	8	6	3	4	3	3	3	4	3	13	15	14	10	7	6	5	5	4	4	4	4	3	3	2	2	-	-	-	-	-
11.7	4	3	3	3	3	3	3	4	4	2	-	2	3	2	3	3	6	10	9	6	4	3	3	3	3	3	4	3	-	-	-	-	-	-	-	-	-
13.7	3	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	7	4	3	2	3	2	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	2	3	2	-	-	-	-	-	-	-	2	3	2	3	8	10	12	2	1	1	2	1	-	-	-	-	-	-	-	-
16.8	-	-	-	-	-	-	-	-	5	5	-	-	5	-	5	6	7	7	5	-	4	12	8	12	5	-	-	-	-	-	-	-	-	-	-	-	-
17.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	-	3	7	10	11	8	3	-	-	-	-	-	-	-	-	-	-	-
18.7	2	1	3	3	3	2	2	3	3	2	2	2	3	2	2	3	3	3	5	11	11	13	13	7	8	3	2	2	8	3	2	2	-	-	-	-	-
25.6	-	-	-	-	-	-	1	2	1	-	1	5	1	-	2	12	6	5	2	5	2	3	2	2	1	2	2	2	2	2	1	1	1	2	1	-	-
27.8	-	-	-	-	-	-	-	-	2	2	3	2	-	1	2	5	12	2	1	2	2	2	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.8	-	-	-	-	-	-	-	1	1	1	1	-	-	-	1	5	2	2	1	1	1	1	10	2	1	1	1	1	2	2	2	1	1	1	-	-	-
29.7	1	2	2	1	1	1	1	1	1	1	1	-	-	-	-	1	2	6	3	2	1	2	4	1	1	1	2	1	-	1	1	1	-	-	-	-	-
30.6	3	3	2	2	2	2	2	2	2	2	1	-	-	-	1	7	6	10	12	17	19	15	8	3	4	3	3	3	2	2	1	1	1	-	-	-	-

Table 76a

Coronal observations at Sacramento Peak, New Mexico (6702A), east limb

Date GCT	Degrees north of the solar equator																		0°	Degrees south of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
May 1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	3	4	4	4	3	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-
3.7	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5.7	-	-	-	-	-	-	-	-	-	2	2	3	3	3	4	4	5	5	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.7	-	-	-	-	-	-	-	-	-	2	2	2	3	3	4	4	5	4	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7.6	-	-	-	-	-	-	-	-	2	2	2	3	3	3	3	4	4	5	4	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9.7	-	-	-	-	-	-	-	-	-	2	2	2	2	3	4	5	5	4	3	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
11.7	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	4	2	-	-	-	-	-	-	-	-	-	-	-	-	-
16.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-
18.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	1	2	3	5	3	1	-	-	-	-	-	-	-	-	-	-	-	-
25.6	-	-	-	-	-	-	-	-	-	-	-	1	2	2	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30.6	-	-	-	-	-	-	-	-	-	1	1	1	2	2	3	3	2	2	2	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes: May 6.7 -- intensity of yellow line (5694A) is 3 at N05 and 00 (associated with usual prominence); May 11.7 Mg I triplet emission at sharp minimum in 5303A at N20; May 18.7 — suggestion of yellow line at S51 (2° north of moderate prominence apparently showing continuum, and coincident with relatively sharp maximum in 6374A).

Table 75b

Coronal observations at Sacramento Peak, New Mexico (6374A), west limb

Date GCT	Degrees south of the solar equator																	0°	Degrees north of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
May 1.9	-	-	-	-	-	-	4	4	5	4	5	4	-	-	5	9	7	5	-	-	-	-	4	4	4	-	-	-	-	-	4	4	4	5	4	6	4
2.7	2	2	2	3	2	2	2	3	5	4	3	2	1	1	3	17	12	6	5	3	4	4	4	2	2	2	4	3	2	3	1	2	2	4	6	6	3
3.7	3	1	2	2	2	3	5	6	8	5	3	2	6	6	12	16	13	10	4	2	4	7	8	2	3	4	6	6	3	2	2	2	2	3	3	3	2
5.7	-	-	-	-	-	-	2	2	3	5	3	2	2	4	9	15	13	15	12	6	5	9	6	2	2	4	5	5	2	2	2	2	2	2	2	3	3
6.7	2	2	3	2	2	2	2	3	3	3	4	4	6	8	20	26	25	23	14	7	12	14	5	3	4	4	7	8	4	3	3	5	5	5	6	6	6
7.6	-	2	2	2	2	2	2	3	3	3	3	3	2	7	12	18	24	10	4	6	15	10	5	2	2	5	4	4	3	2	2	3	4	4	5	5	5
9.7	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	6	6	5
11.7	-	-	-	2	2	2	2	3	3	3	4	3	2	2	4	8	7	6	6	8	10	8	12	6	3	4	9	6	4	3	3	2	2	2	3	4	4
13.7	-	-	-	-	-	-	2	2	2	3	2	1	1	1	1	5	8	4	3	2	4	9	12	8	1	2	11	3	1	-	-	-	-	-	2	4	3
15.7	-	-	-	-	-	-	-	-	-	-	-	2	-	2	4	7	12	8	-	2	6	8	9	3	2	-	-	-	-	-	-	-	-	-	-	-	-
16.8	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	6	5	-	5	6	8	9	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.7	-	-	-	-	-	-	-	2	2	1	2	2	3	4	5	7	8	5	15	9	12	3	11	10	1	-	-	-	-	2	1	1	2	2	3	3	2
25.6	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	5	7	7	4	4	5	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
27.8	-	-	-	-	-	-	-	-	-	-	-	1	2	3	4	20	8	3	1	2	2	1	-	1	2	1	-	-	-	-	-	-	-	-	-	-	-
28.8	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5	9	13	4	1	-	1	2	7	8	3	2	1	-	-	-	2	1	-	-	-	-	-
29.7	-	-	-	-	-	-	-	-	-	-	-	-	-	1	14	6	14	8	1	4	6	3	9	10	10	2	1	-	-	-	1	2	2	2	2	2	1
30.6	-	-	1	1	1	1	2	2	2	2	1	-	2	1	13	10	12	20	2	12	10	12	8	10	6	12	2	-	-	-	1	2	2	3	4	4	3

Table 76b

Coronal observations at Sacramento Peak, New Mexico (6702A), west limb

Date GCT	Degrees south of the solar equator																	0°	Degrees north of the solar equator																	
	90	85	80	75	70	65	60	55	50	45	40	35	30	25	20	15	10	5		5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
1950																																					
May 1.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2.7	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4	5	4	3	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3.7	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4	4	3	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5.7	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	4	4	3	2	2	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6.7	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	3	4	3	2	2	3	3	3	2	2	2	2	2	2	2	-	-	-	-	-	-	-
7.6	-	-	-	-	-	-	-	-	2	2	-	-	2	2	3	3	4	3	3	3	3	3	3	2	3	3	3	2	2	2	-	-	-	-	-	-	-
9.7	-	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	-
11.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	3	-	-	-	-	-	-	-	-	-	-
13.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
15.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
17.7a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
18.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3	3	4	6	7	4	4	3	2	2	1	-	-	-	-	-	-	-	-
25.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	2	2	2	-	-	-	-	-	-	-	-	-	-
27.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
29.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	1	1	2	1	-	-	-	-	-	-	-	-	-	-	-
30.6	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3	3	2	1	-	-	1	2	3	3	2	1	-	-	-	-	-	-	-	-	-	-

Table 77

Particulars of Observations, Climax, Colorado
January-June 1950

Date GCT	Greenline threshold intensity at						Obs.	Meas
	45°	90°	135°	225°	270°	315°		
1950								
Jan. 4.7	12	5	-	-	-	-	D	S
6.7	3	3	3	3	3	4	D	S
7.7	3	4	3	3	3	3	D	S
8.7	-	11	9	-	-	-	A	S
10.7	5	4	5	4	2	3	A	S
11.7	7	8	6	9	9	-	A	S
16.8	13	11	9	-	13	7	F/A	S
20.7	5	5	-	-	-	-	A	S
26.8	7	5	5	7	7	8	F	S
Feb. 1.7	6	6	4	5	6	6	D	S
2.7	4	5	4	4	4	4	F/A	S
3.8	6	5	4	6	5	4	F	S
8.8	7	6	7	7	7	7	D	S
9.8	7	7	6	6	6	7	A	S
10.7	5	5	5	5	5	5	D	S
13.7	11	10	15	15	15	15	A	S
15.9	14	15	15	15	15	-	F	S
16.8	13	12	14	13	13	13	A	S
17.9	>15	6	-	-	-	-	F	S
18.8	5	5	5	6	6	4	F/D	S
19.7	5	6	6	6	6	7	D	S
25.7	6	7	8	9	9	8	F/D	S
26.8	8	7	9	7	7	9	F	S
Mar. 1.7	7	5	4	5	4	7	A	S
4.9	8	8	9	4	4	4	A	S
5.6	3	4	4	4	4	5	F	S
11.0	-	15	-	-	-	-	A	S
13.7	15	14	15	11	11	10	A	S
16.7	9	10	9	10	6	8	D	S
17.9	8	6	6	6	4	5	F	S
23.7	9	11	10	9	10	9	F	S
29.7	15	15	9	8	9	9	A	S
Apr. 2.7	11	9	12	8	11	8	D	S
4.9	8	8	13	9	12	10	F	S
5.8	3	3	3	3	3	4	F	S
7.6	6	5	6	5	5	5	D	S
8.7	15	14	-	-	-	-	F	S
10.9	>15	14	-	-	-	-	F	S
13.0	11	10	11	12	10	9	A	S
13.9	8	7	9	10	12	15	D	S
14.6	6	6	6	6	6	4	F	S
17.9	5	5	4	5	9	8	A	S
19.7	7	7	8	7	8	8	D	S
20.6	11	10	9	11	13	10	F	S
21.6	8	8	7	7	9	7	A	S
22.7	-	14	-	-	>15	-	F	S
24.0	14	15	15	13	13	14	F	S
25.7	8	6	9	7	9	8	D/F	S
26.6	-	-	-	>15	-	-	A	S
27.9	-	>15	-	-	-	-	F	S
28.7	14	10	12	9	15	9	D	S
29.7	5	4	4	4	4	6	F	S
30.6	6	8	5	8	7	6	D	S

Date GCT	Green line threshold intensity at						Obs.	Meas.
	45°	90°	135°	225°	270°	315°		
1950								
May 1.6	5	4	3	4	4	4	A	S
2.8	12	11	12	12	13	12	D	S
3.7	10	8	10	9	9	10	F	S
4.6	11	11	10	11	11	13	A	S
6.6	7	8	7	8	9	8	D	S
8.7	12	12	12	13	14	13	A	S
9.6	6	6	6	5	6	6	D	S
10.9	7	12	7	8	7	7	A	S
11.6	7	8	7	8	9	8	D	S
12.6	-	>15	-	-	-	-	F.	S
13.6	9	10	8	8	8	8	A	S
14.7	6	5	6	7	6	5	F	S
15.6	12	13	13	12	13	>15	D	S
16.6	9	7	7	8	9	8	A	S
17.6	7	6	6	7	8	7	F	S
19.7	5	4	10	8	8	14	F/D	S
20.6	8	9	6	7	8	8	A	S
21.6	4	4	6	4	5	7	F	S
22.6	7	6	6	7	6	6	D	S
23.6	10	10	10	10	10	8	A	S
24.7	7	6	7	12	8	5	A	S
26.6	4	3	3	5	4	3	A	S
29.7	7	9	7	7	9	9	D	S
30.6	7	7	7	7	7	8	A	S
31.6	15	14	13	>15	11	9	D	S
Jun. 1.6	5	5	4	5	4	6	A	S
2.6	9	9	9	9	7	6	F	S
4.7	7	6	5	6	7	7	D	S
5.6	2	2	2	2	2	2	F	S
6.6	5	4	5	6	5	5	D	S
7.6	5	6	5	5	6	6	F	S
8.7	6	6	6	5	6	7	D	S
9.6	9	7	8	7	7	6	F	S
10.7	9	6	8	10	8	9	A	S
11.7	10	9	9	11	10	11	F	S
12.7	7	6	6	10	7	7	A	S
13.8	10	9	10	10	9	9	F	S
14.7	14	13	13	15	15	>15	D	S
15.7	>15	11	14	15	11	11	A	S
16.7	>15	>15	15	13	14	14	A	S
17.6	11	11	10	12	12	12	D	S
18.6	10	10	10	9	9	9	A	S
19.7	13	13	12	14	14	13	D	S
20.9	14	8	14	-	13	-	A	S
21.6	13	10	10	8	7	7	D	S
23.6	13	14	13	13	12	14	D	S
24.6	7	6	5	6	6	5	A	S
25.7	10	10	9	10	11	11	D	S
26.6	6	6	5	6	8	8	A	S
27.6	9	8	8	10	11	9	D	S
28.7	>15	>15	>15	>15	15	>15	A	S
29.7	>15	>15	13	>15	>15	>15	D	S
30.6	11	12	10	8	10	11	A	S

A = Allen
D = Dolder
F = Fleming
S = Schnable

Table 78

Outstanding Solar Flares, January - March 1950

Observatory	Date 1950	Time Observed Beginning (GCT)	Time Observed Ending (GCT)	Duration (Min)	Area (Mill) (of) (Sun's) (Disk)	Position Longitude (Deg)	Position Latitude (Deg)	Time of Maximum (GCT)	Int. of Maximum (GCT)	Relative Area of Maximum	Importance	SID Observed	Remarks
Wendelstein	Jan 1	1017	1031		194	E22	N05	1021			1		
"	" 1	1434	1450		97	W12	N21	1437			1		
McMath	" 9	1915				W15*	N12*				1 +		
Meudon	" 24	1025				W45	S15				1		
Wendelstein	" 24	1150	1232		194	W44	N17	1207			1		
"	" 25		0836		242	E27	N21				1		
"	" 30	1124	1150		291	W10	N04	1129			1		
Boulder	Feb 13		1730			E16	S28		Moderate				
"	" 13	1910	1950	40		E85	N34					Yes	
"	" 14	2210	2240	30	130	W40	S29		Moderate				
Meudon	" 16	1050				E05	N15				1		
Boulder	" 16	1634	2327	413	60	E46	N10		9				Many Maxima
"	" 16	1714	2009	175	123	E42	N15		4				
"	" 16	1739	1759	20	15	E46	N08		10				
"	" 16	1804	1959	115	100	W34	S12		3				
"	" 16	1809	1844	35	70	W37	N16		6				
"	" 16	1824	1854	30	40	W38	S18		6				
"	" 17	2004	2109	65	180	E34	N12		10			Yes	
McMath	" 17	2028				E35	N11				2	Yes	
Boulder	" 17	2304	2329	25	100	E29	N09		20				
Wendelstein	" 18	1344	1410	26	582	E27	N07	1348			2	Yes	
"	" 18	1412	1429	17	242	E24	N10	1417			1	Yes	
McMath	" 18	1515				E20*	N11*				1	Yes	
Wendelstein	" 18	1522	1536		145	E08	N12	1527			1	Yes	
Boulder	" 18	1851	1900	9	30	W60	S15		6				
"	" 18	1916	1931	15	50	W19	N19		4				
"	" 18	2211	2250	39	200	E05	N13		25				
"	" 18	2236	2311	35	120	E21	N12		4				
"	" 19	1736	1745	9	30	E10	N11		10			Yes	
"	" 19	1815	1905	50	130	W03	N11		10			Yes	
"	" 19	2045	2133	48	80	W39	N13		7				
"	" 19	2125	2326	121	80	E07	N07		10				
"	" 19	2325	2328	3	120	E11	N07		6				
"	" 19	2336	2340	4	90	E09	N12		7				
Wendelstein	" 20	0739			194	W04	N11				1 +		
"	" 20	0739			388	W14	N15				1		
Boulder	" 22	2258	2328		30	W49	N14		5				
"	" 22	2308	2328		40	W42	N14		5				
Wendelstein	" 23	0714	0751		291	W53	N14	0721			2	Yes	
"	" 23	0805	0815		48	W47	N08	0808			1		
Boulder	Mar 3	1753	1802	9	30	E29	N12		10				
"	" 5	1608	1635	27	70	E09	S03		20			Yes	
"	" 5	1608	1628	20	60	E05	N02		18			Yes	
Wendelstein	" 6	0712	0721	9	145	E59	N15	0714			1 +		
"	" 7	0904	0931	27	388	E07	N29	0915			1		
"	" 7	1336	1409	33	582	W74	S09	1348			1		
Meudon	" 7	1429				W65	N05				1		
"	" 7	1440				E05	N25				1		
Wendelstein	" 8	0906	0931	25	436	W06	N28	0915			1		
Boulder	" 8	1814	1834	20	370	W50	S03		7				
"	" 8	1829	1831	2	190	E27	N13		5				
Wendelstein	" 9	0902	0930	28	388	E34	N22	0917			1		
"	" 9	0931	0955	24	436	E34	N22	0934			1		
Boulder	" 9	1856			105	E55	S18		7				
"	" 9	2001	2011	10	126	E29	N23		5				
"	" 9	2036	2111	35	475	W28	N29		8			Yes	
"	" 9	2306	2336	30	32	E29	N23		7				
"	" 10	1549	1604	15	100	E90	N11		7			Yes	
Meudon	" 14	1005				W25	N15				1		
Boulder	" 15	2112			60	W38	S06		7				Intermittent
"	" 16	1840	2029	109	1650	E03	N11		20			Yes	
"	" 19	2109	2130	21	323	W48	S05		10				
"	" 20	1632	1657	25	214	W33	N17		4				
Wendelstein	" 24	0813	0835		145	E54	S13	0819			1		
Boulder	" 28	1525	1558	33	214	W40	S18	1535	10				
Wendelstein	" 29	0628	0658		873	E76	N09	0631			1 - 2		
"	" 29	0935	0954	19	776	E75	N09	0941			1		
Boulder	" 29	2140	2209	29	443	E19	S12	2145	8				
Meudon	" 31	0830				E45	S05				1		

*Longitude and latitude of calcium area in which solar flare was observed.

Table 79

Indices of Geomagnetic Activity for May 1950

Preliminary values of mean K-indices, Kw, from 33 observatories;
Preliminary values of international character-figures, C;
Geomagnetic planetary three-hour-range indices, Kp;
Magnetically selected quiet and disturbed days

Gr. Day 1950	Values Kw	Sum	C	Values Kp	Sum	Final Sel. Days
1	1.6 0.8 1.2 1.5 1.2 2.0 2.7 2.4	13.4	0.4	2o1o1+2- 1+2-3-2o	14-	Five
2	1.9 1.7 1.5 2.1 2.6 3.6 3.8 4.7	21.9	1.0	2+2-1+2o 3-4-5-6-	24o	Quiet
3	5.0 4.7 3.6 3.5 2.7 3.2 4.8 4.2	31.7	1.4	6o5+4+4o 3+3+6-5o	37o	
4	3.2 2.5 2.2 2.3 1.9 3.5 3.7 4.2	23.5	1.0	4-3o3-3- 2-4o4+5+	27+	8
5	4.2 2.7 2.5 3.4 2.8 2.9 3.0 3.3	24.8	0.9	5+3o3o4o 3o3o3o4-	28o	9 12
6	2.1 1.9 1.9 2.2 2.3 2.7 2.2 3.1	18.4	0.6	2o2o2o2o 3-3-3-3+	19+	18
7	3.8 1.2 2.5 1.5 2.0 2.5 1.2 2.4	17.1	0.6	4+1o3o1+ 2+2+1o2+	18-	19
8	2.1 1.7 1.9 1.2 1.4 1.1 0.9 2.1	12.4	0.2	2o2-2o1o 1+1-1-2-	11o	
9	0.8 0.8 0.3 0.5 0.8 0.6 1.1 1.2	6.1	0.0	1-1-0o0+ 0+1-1-1o	4+	
10	1.3 1.1 1.5 1.7 1.8 1.5 1.4 3.6	13.9	0.5	1+1+2-2o 2-1o1o4o	14o	
11	3.2 1.8 2.2 2.3 3.2 3.5 2.4 2.2	20.8	0.9	3+2o3o3- 4-3+3-2+	23o	Five
12	2.1 1.2 1.3 1.2 0.8 2.0 2.0 1.6	12.2	0.3	2o1+1+1o 0+2-2o2-	11+	Dist.
13	2.2 3.3 3.0 2.8 2.6 2.8 3.0 2.8	22.5	0.8	3-4o3+3o 3-3-3+3+	25o	
14	3.1 2.7 2.0 2.8 3.5 2.8 2.8 3.4	23.1	0.8	3+3-2+3o 4o3-3o4o	25o	3
15	3.4 3.2 3.2 2.6 2.1 3.0 4.4 3.7	25.6	1.0	4o3+4-3- 2+3+5+4-	28+	15 23
16	2.4 2.7 2.9 2.2 2.2 2.5 2.4 2.7	20.0	0.6	3-3o3+2+ 2o3-2+2+	21-	27
17	2.3 1.0 1.5 1.6 2.3 1.9 1.8 1.5	13.9	0.4	2+1-2-1+ 2+2-1+2-	13o	28
18	2.7 1.4 0.5 1.3 1.0 1.3 1.4 0.6	10.2	0.2	3-1+0o1o 1-1o1+1-	9-	
19	0.4 0.5 0.5 0.9 1.1 2.7 2.0 0.8	8.9	0.2	0o0+0+0+ 1-3o2+1-	8-	
20	1.6 0.9 1.6 1.5 2.1 2.5 2.4 3.2	15.8	0.5	2-1o2-1o 2o2+3-3+	16-	
21	3.3 2.3 0.9 0.9 1.3 2.0 1.5 1.0	13.2	0.5	3+3-1-0+ 1+3-1+1o	13+	Ten Quiet
22	0.3 0.6 2.2 3.3 4.6 3.6 3.2 3.3	21.1	1.1	0o0+2o4- 5o4o4-4o	23-	
23	3.8 3.1 3.6 4.5 4.1 4.6 3.5 3.9	31.1	1.5	4+3+4o4+ 4+5+4+4+	34+	1
24	3.6 3.1 2.7 1.6 1.4 1.5 2.5 2.5	18.9	0.7	4-3+3o2- 1o1+3-3-	19+	8
25	2.5 0.8 1.8 2.3 2.5 3.6 2.4 2.8	18.7	0.7	3-1o1+2+ 2+4-2+3-	18+	9 12
26	2.7 2.5 2.7 3.4 2.6 3.1 2.9 1.8	21.7	0.8	3-3-3+4- 3-3+3+2-	23+	17
27	2.5 2.4 2.4 2.0 4.6 4.5 4.3 5.5	28.2	1.5	2+3-3-2o 5o5+5o7o	32o	18
28	6.2 5.5 4.8 4.5 3.5 3.5 3.8 3.4	35.2	1.7	7o7-6o6o 4-4o4o4-	41o	19
29	3.8 3.8 2.0 3.5 4.0 2.9 2.8 2.8	25.6	1.1	4o4o2+4o 5-3+3+3o	29-	20
30	3.5 3.8 2.3 2.2 2.6 3.8 2.0 1.8	22.0	0.8	4o4+3-2+ 3-4o2o2-	24-	21
31	1.8 1.5 0.7 0.6 1.5 1.0 0.8 2.9	10.8	0.3	2o2-1-0+ 2-1-1-3+	11o	31
Mean	2.69 2.17 2.06 2.19 2.36 2.67 2.55 2.75	2.43	0.74			

GRAPHS OF IONOSPHERIC DATA

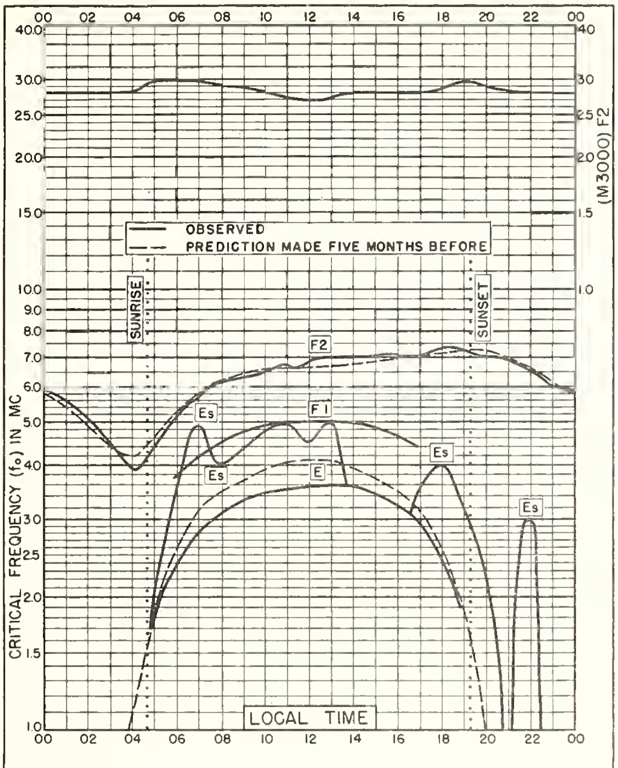


Fig. 1. WASHINGTON, D. C.
38.7°N, 77.1°W JUNE 1950

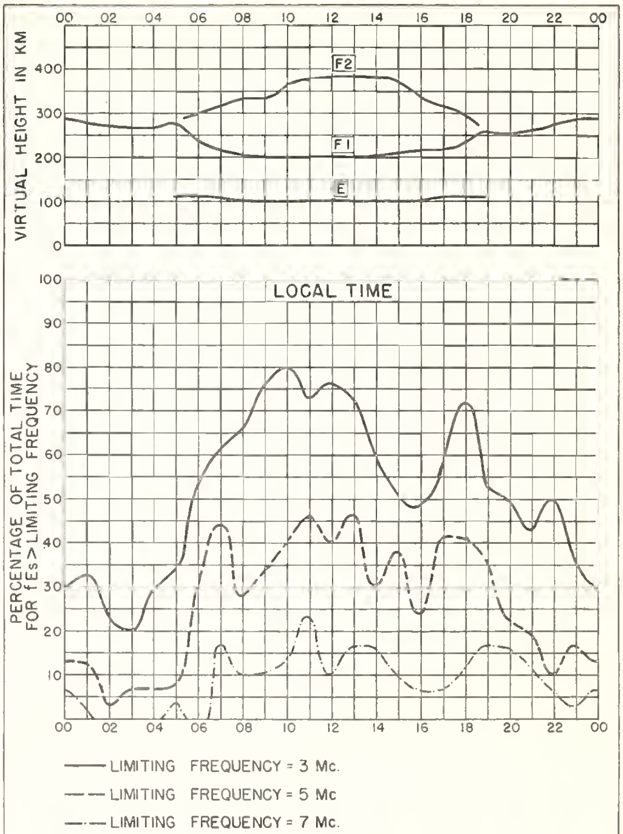


Fig. 2. WASHINGTON, D. C. JUNE 1950

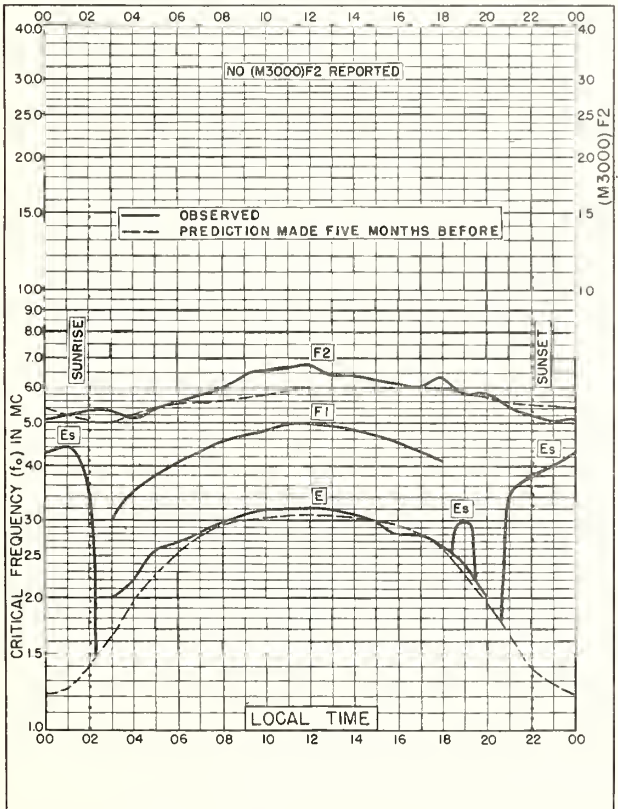


Fig. 3. KIRUNA, SWEDEN
67.8°N, 20.5°E MAY 1950

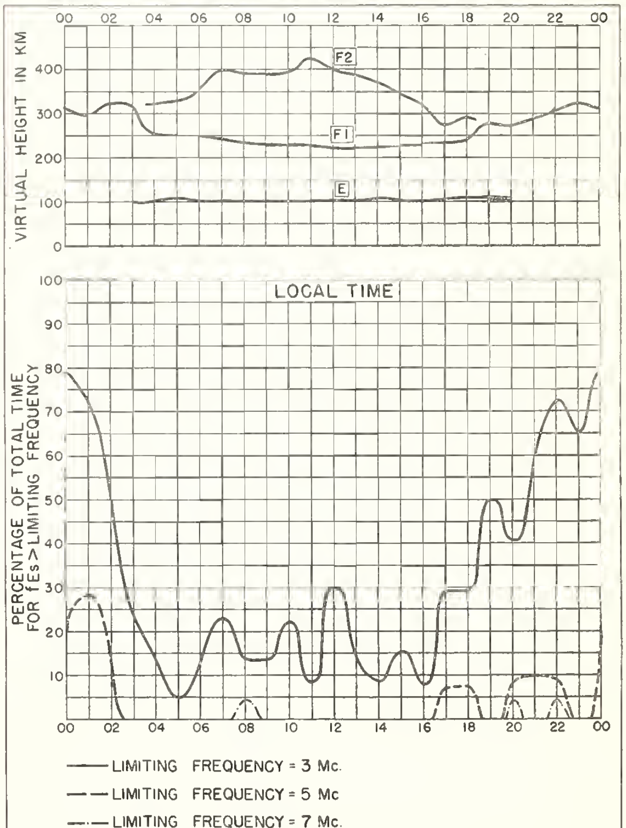


Fig. 4. KIRUNA, SWEDEN MAY 1950

Fig. 5. OSLO, NORWAY MAY 1950

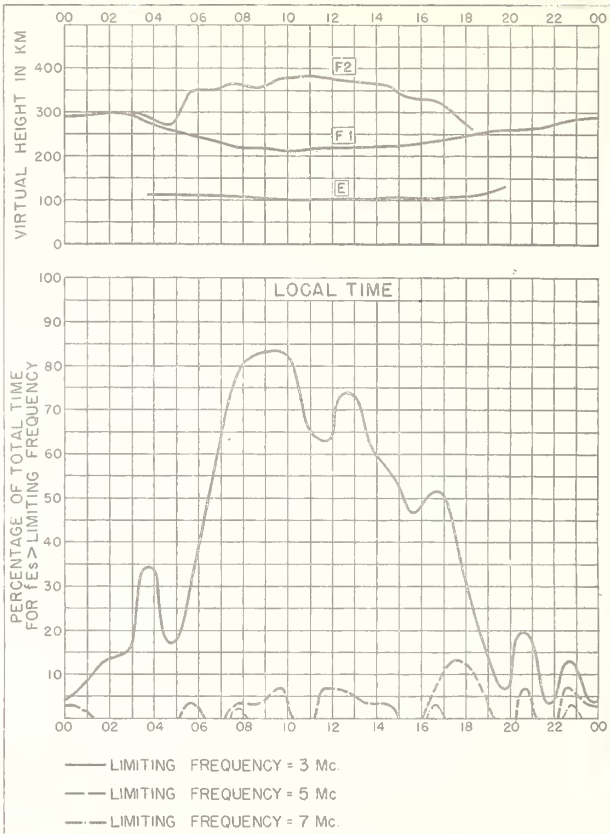


Fig. 6. OSLO, NORWAY MAY 1950

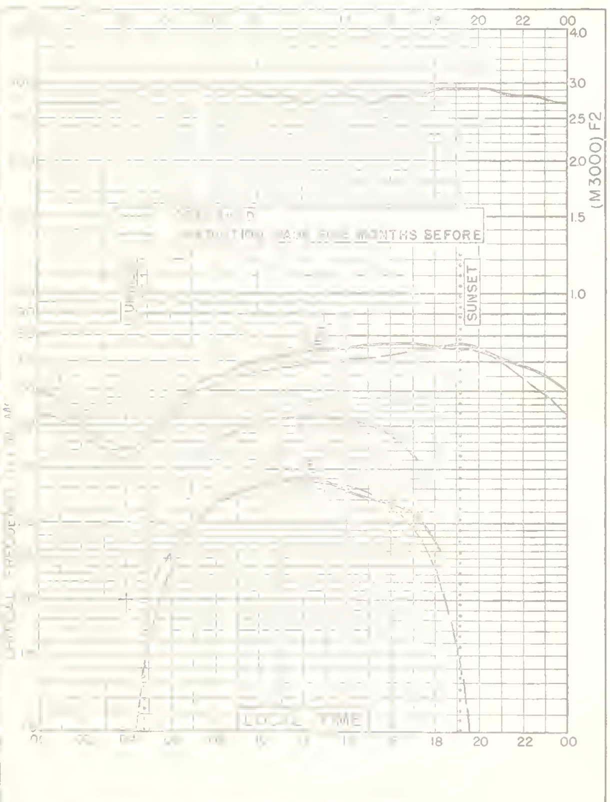


Fig. 7. BOSTON, MASSACHUSETTS 42.4°N, 71.2°W MAY 1950

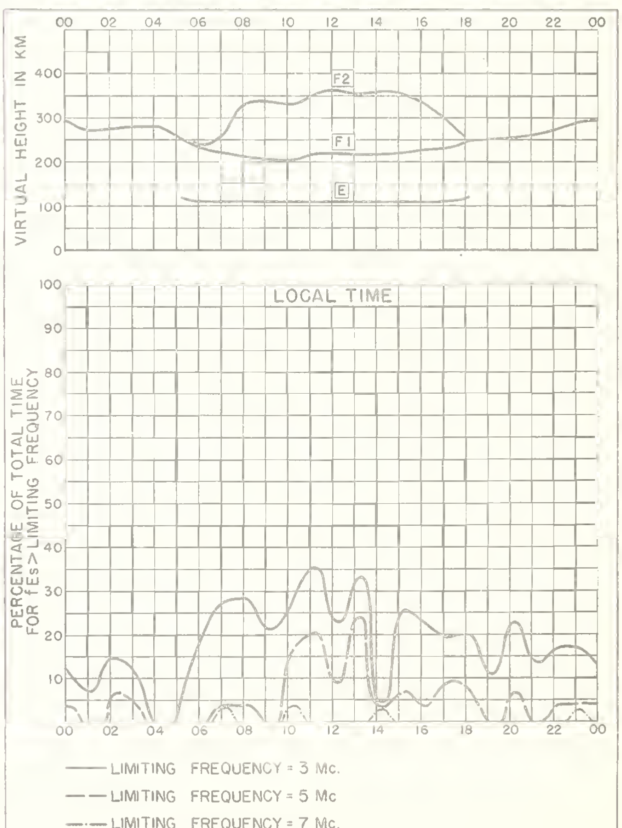


Fig. 8. BOSTON, MASSACHUSETTS MAY 1950

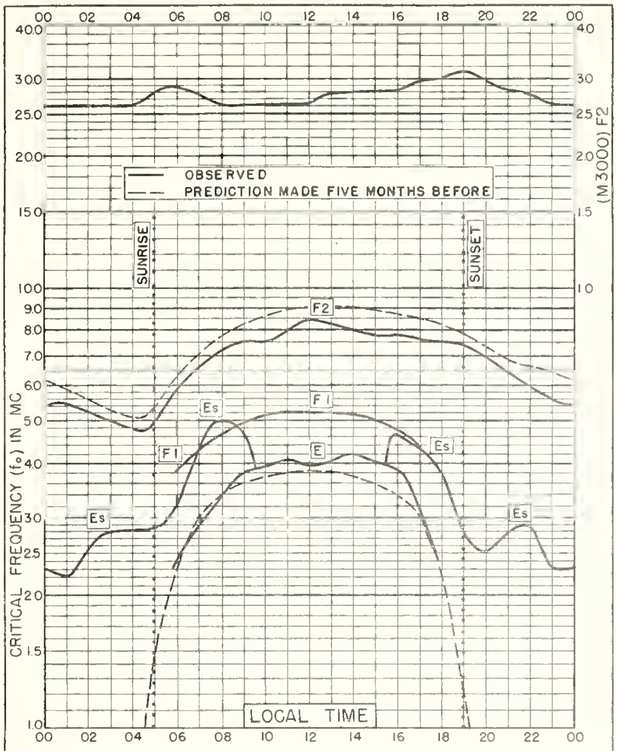


Fig. 9. SAN FRANCISCO, CALIFORNIA
37.4°N, 122.2°W MAY 1950

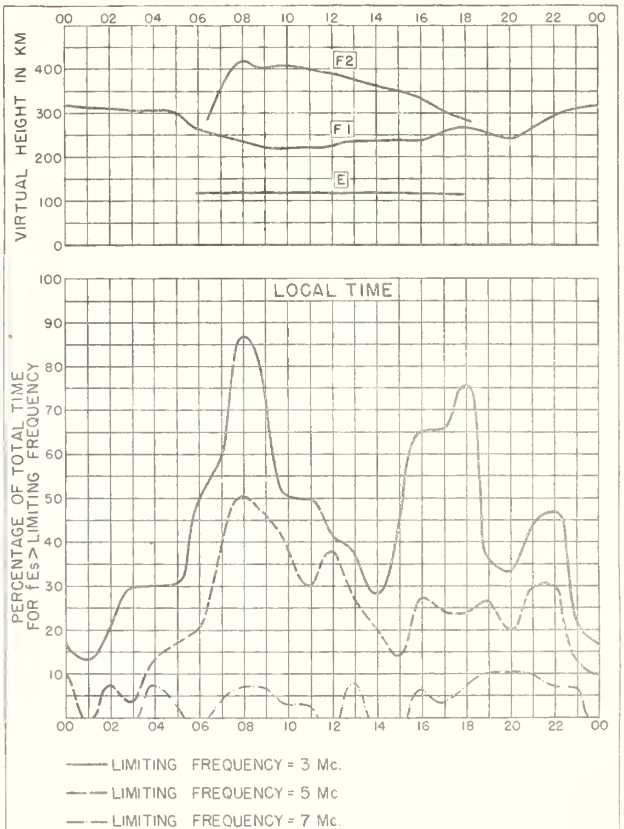


Fig. 10. SAN FRANCISCO, CALIFORNIA MAY 1950

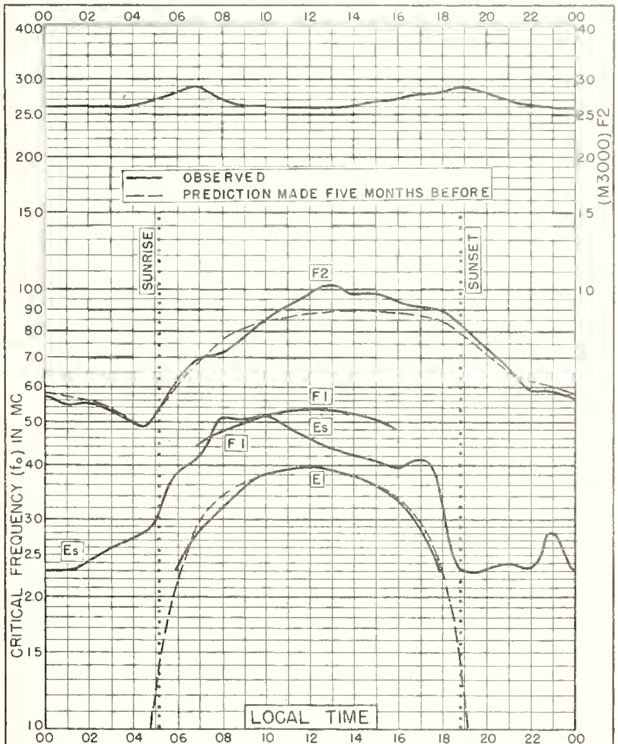


Fig. 11. WHITE SANDS, NEW MEXICO
32.3°N, 106.5°W MAY 1950

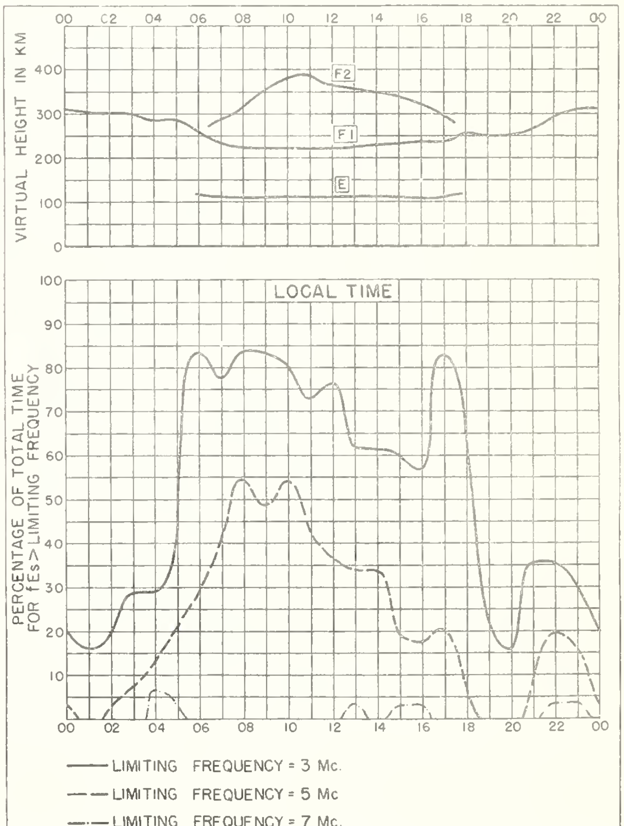


Fig. 12. WHITE SANDS, NEW MEXICO MAY 1950

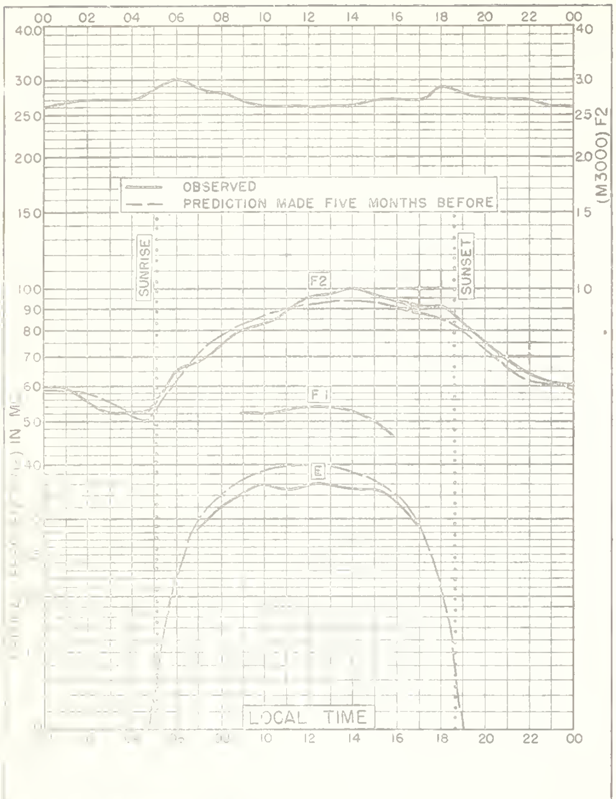


Fig. 13. BATON ROUGE, LOUISIANA
30.5°N, 91.2°W MAY 1950

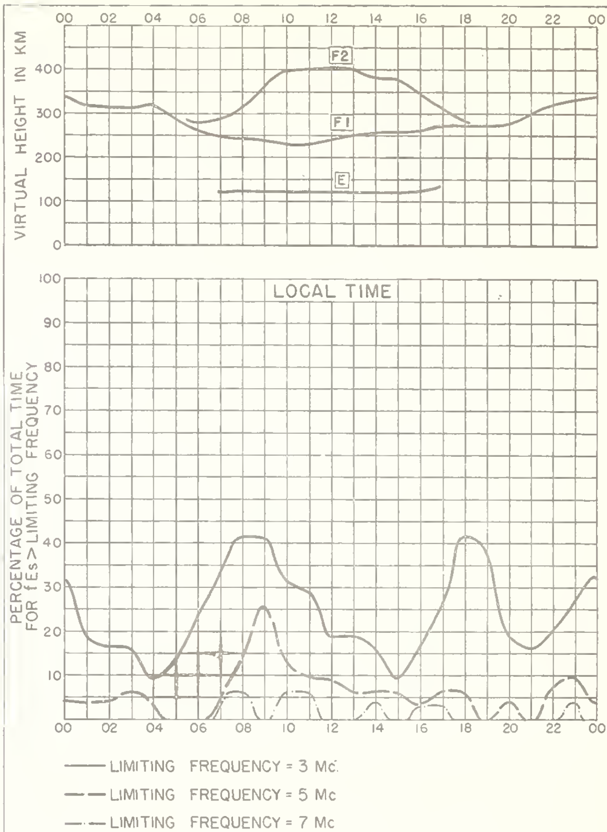


Fig. 14. BATON ROUGE, LOUISIANA MAY 1950

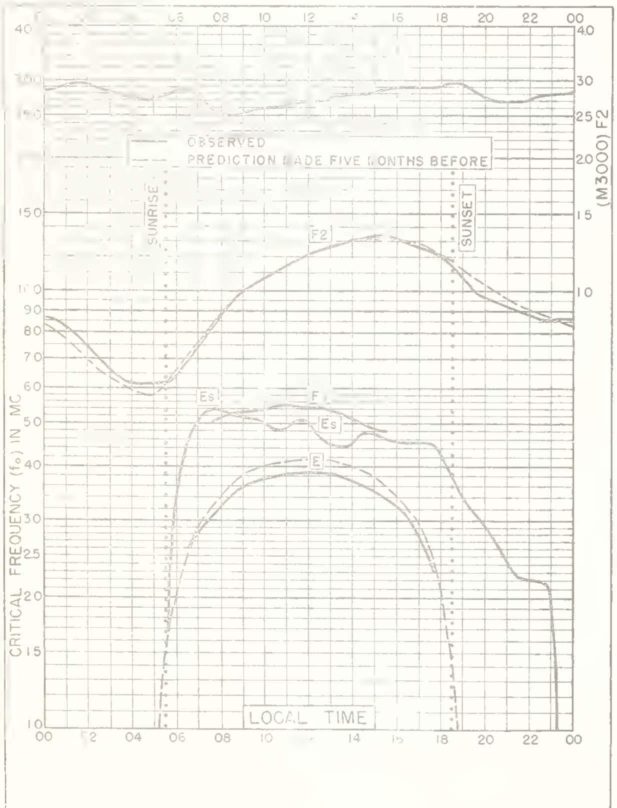


Fig 15. MAUI, HAWAII
20.8°N, 156.5°W MAY 1950

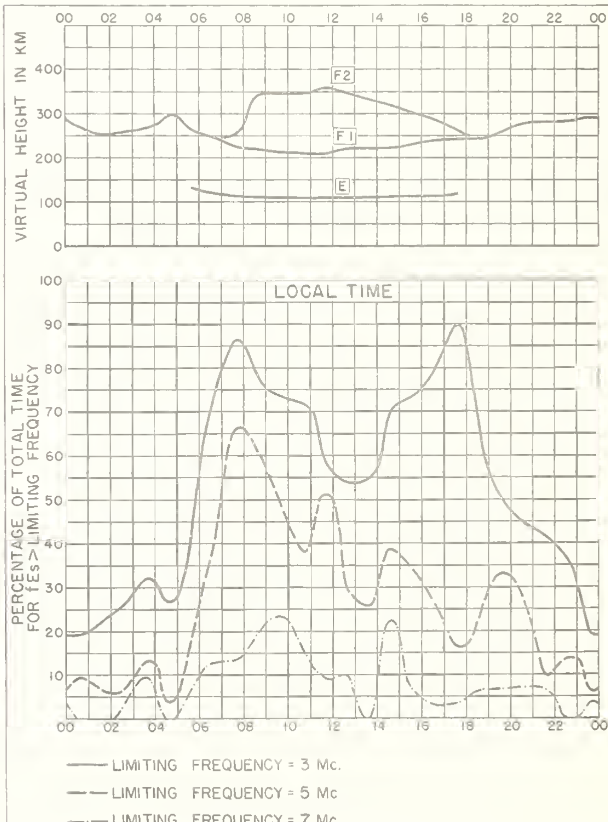


Fig. 16. MAUI, HAWAII MAY 1950

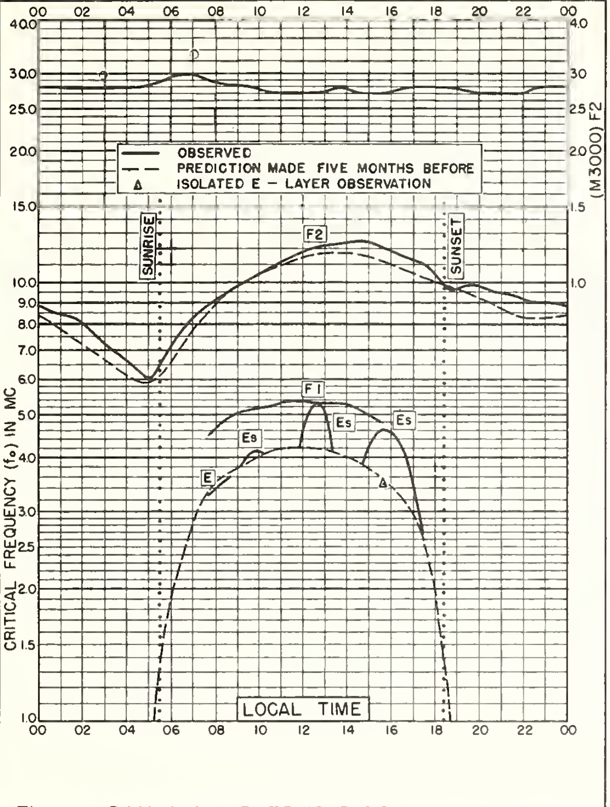


Fig. 17. SAN JUAN, PUERTO RICO
18.4°N, 66.1°W MAY 1950

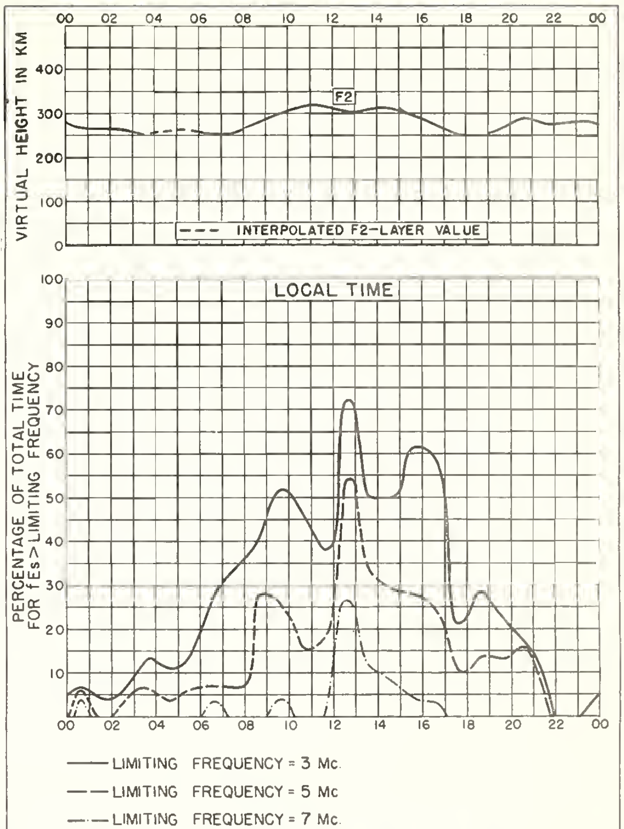


Fig. 18. SAN JUAN, PUERTO RICO MAY 1950

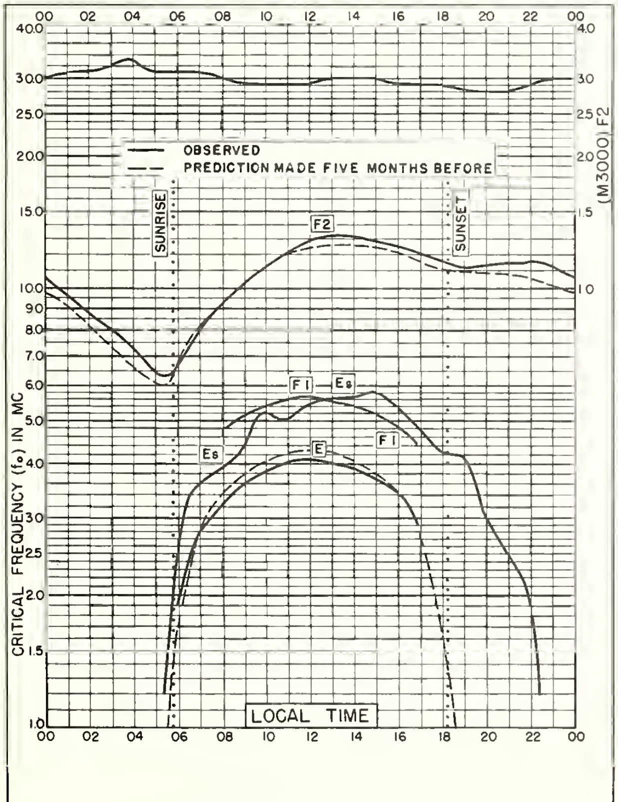


Fig. 19. TRINIDAD, BRIT. WEST INDIES
10.6°N, 61.2°W MAY 1950

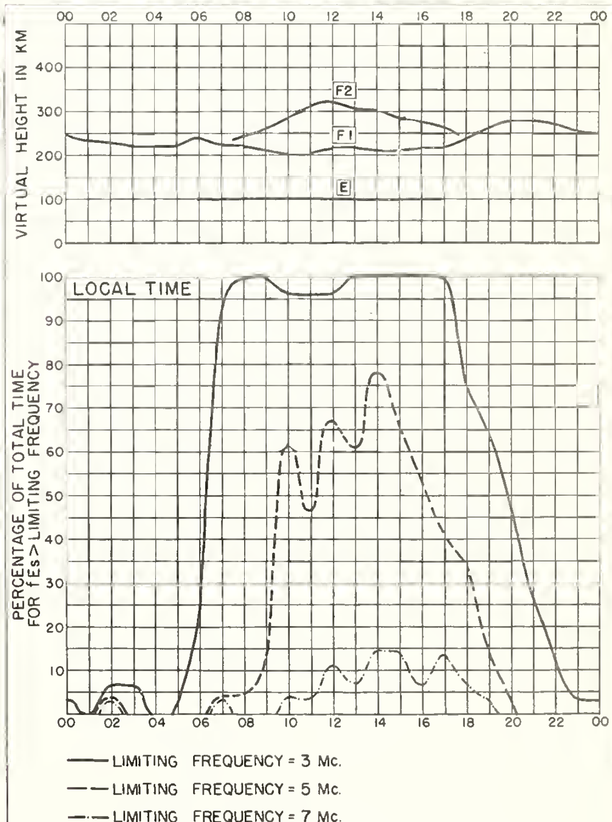


Fig. 20. TRINIDAD, BRIT. WEST INDIES MAY 1950

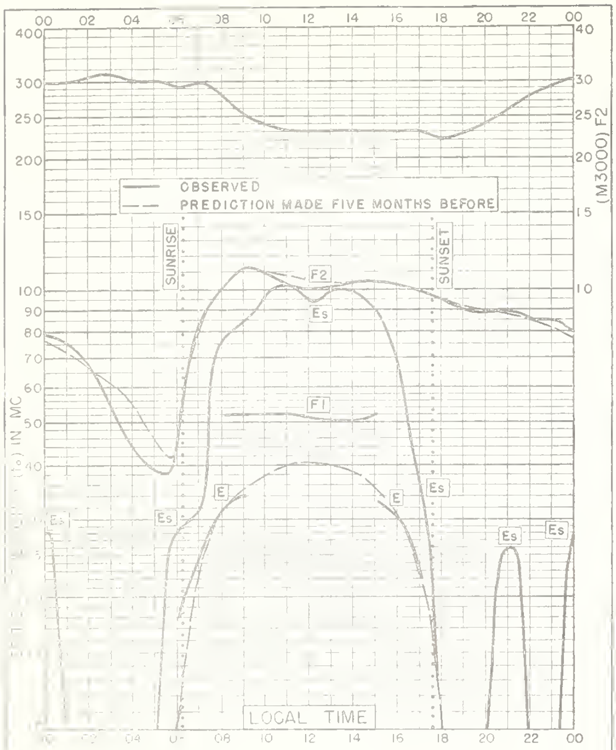


Fig. 21. HUANCAYO, PERU
12.0°S, 75.3°W
MAY 1950

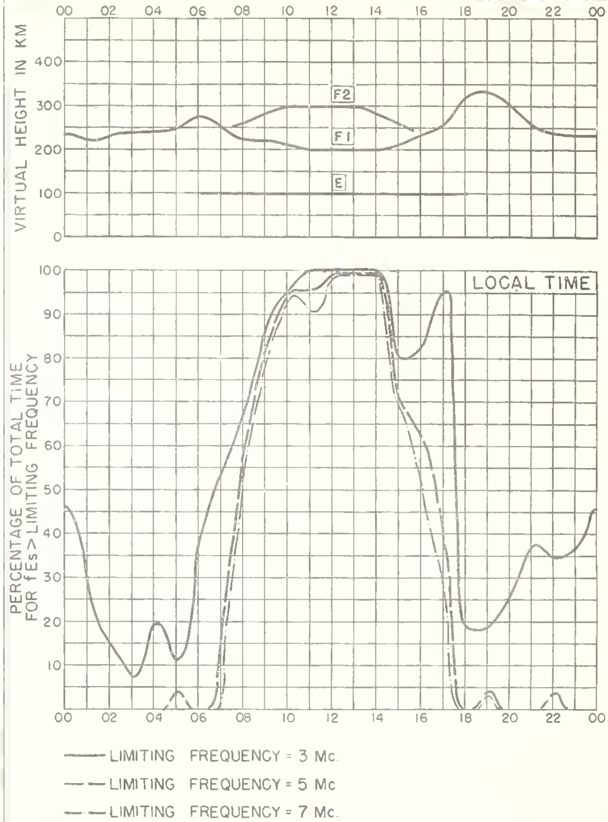


Fig. 22. HUANCAYO, PERU
MAY 1950

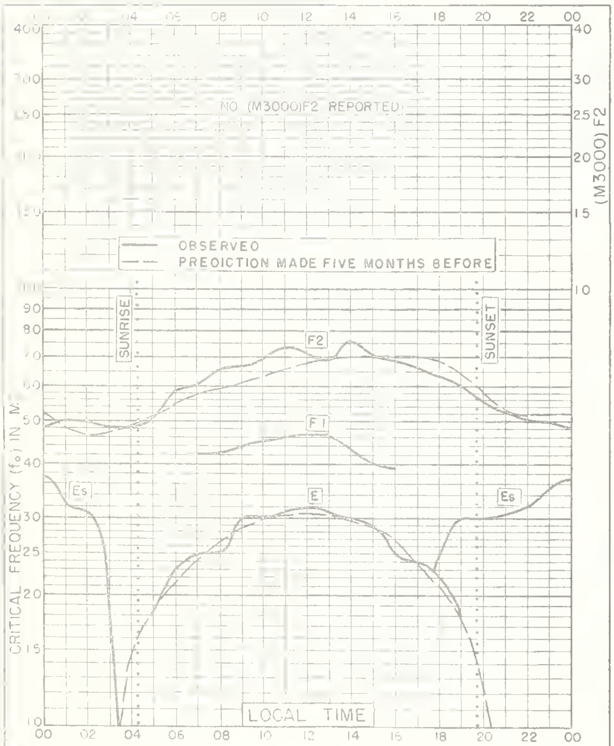


Fig. 23. KIRUNA, SWEDEN
67.8°N, 20.5°E
APRIL 1950

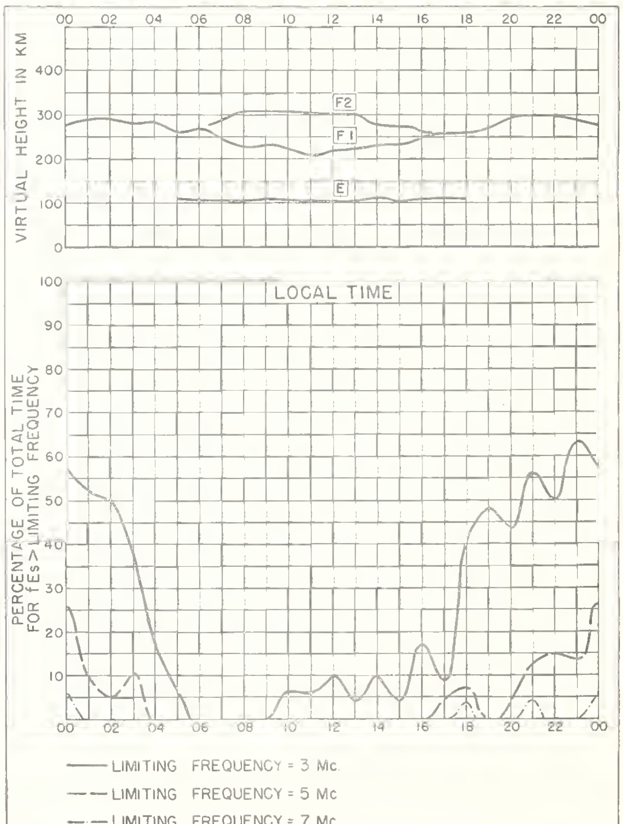


Fig. 24. KIRUNA, SWEDEN
APRIL 1950

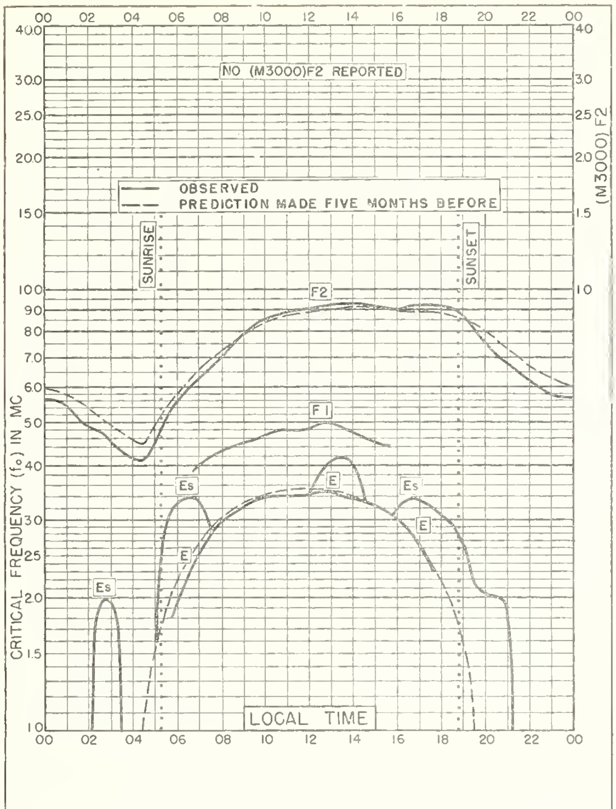


Fig. 25. LINDAU/HARZ, GERMANY
51.6°N, 10.1°E APRIL 1950

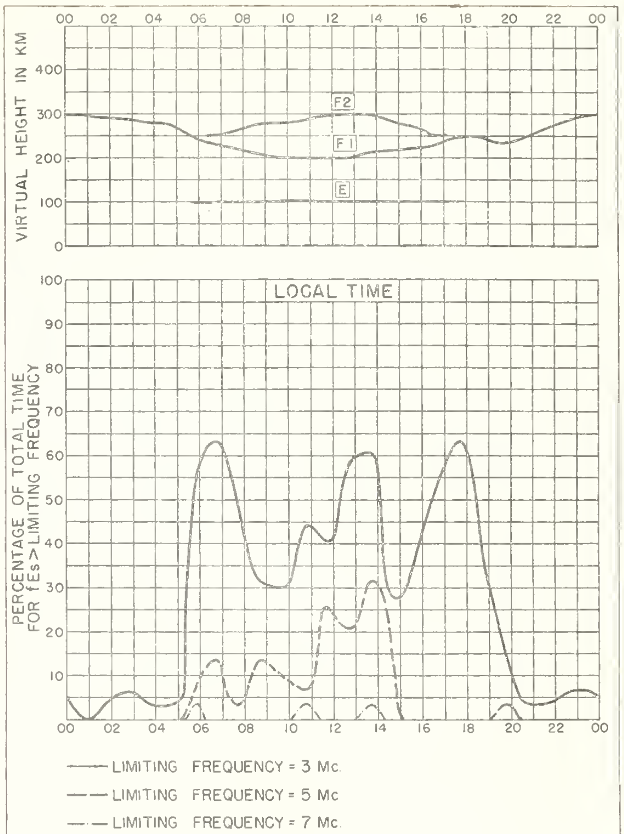


Fig. 26. LINDAU/HARZ, GERMANY APRIL 1950

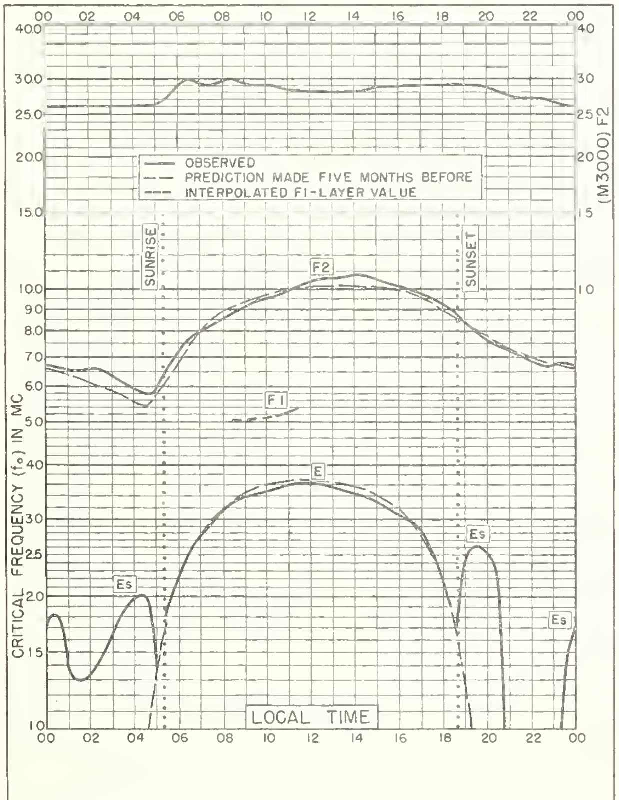


Fig. 27. WAKKANAI, JAPAN
45.4°N, 141.7°E APRIL 1950

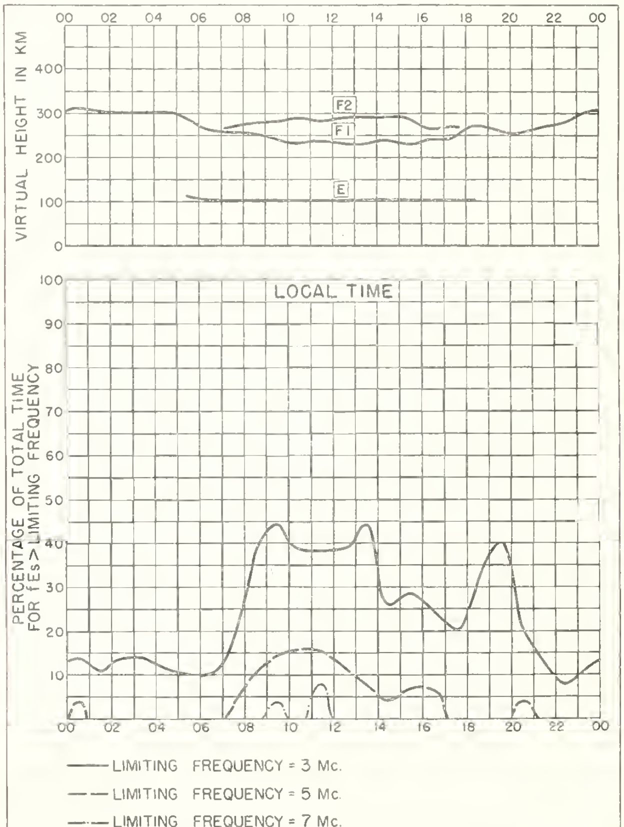


Fig. 28. WAKKANAI, JAPAN APRIL 1950

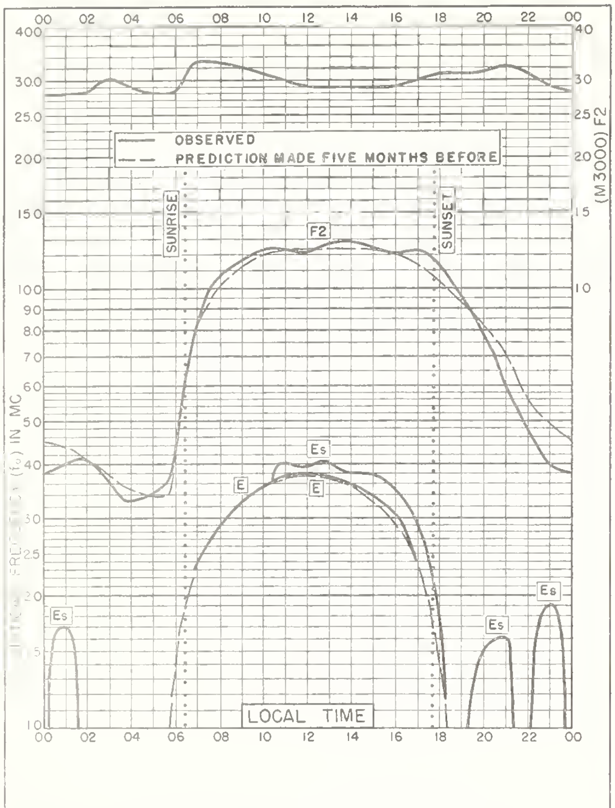


Fig. 29. JOHANNESBURG, U. OF S. AFRICA
26.2°S, 28.0°E APRIL 1950

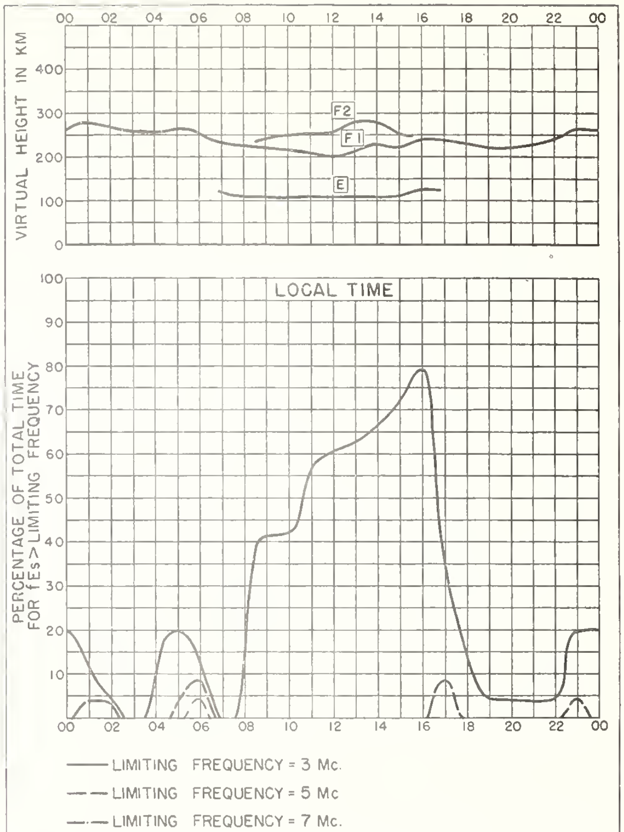


Fig. 30. JOHANNESBURG, U. OF S. AFRICA APRIL 1950

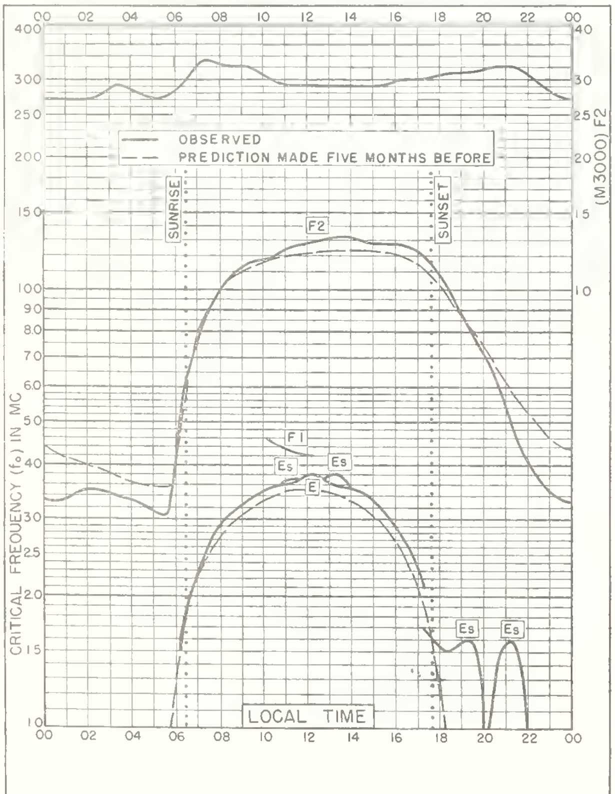


Fig. 31. CAPETOWN, U. OF S. AFRICA
34.2°S, 18.3°E APRIL 1950

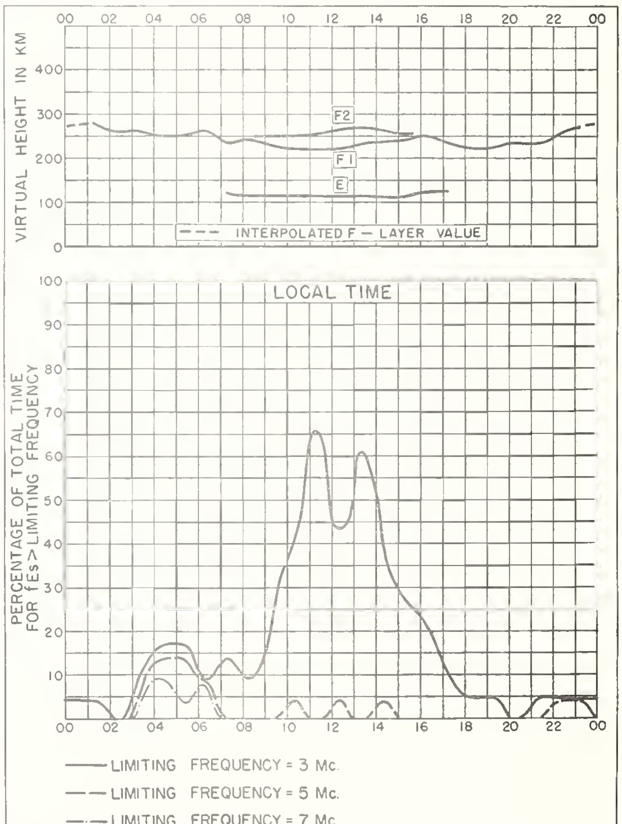


Fig. 32. CAPETOWN, U. OF S. AFRICA APRIL 1950

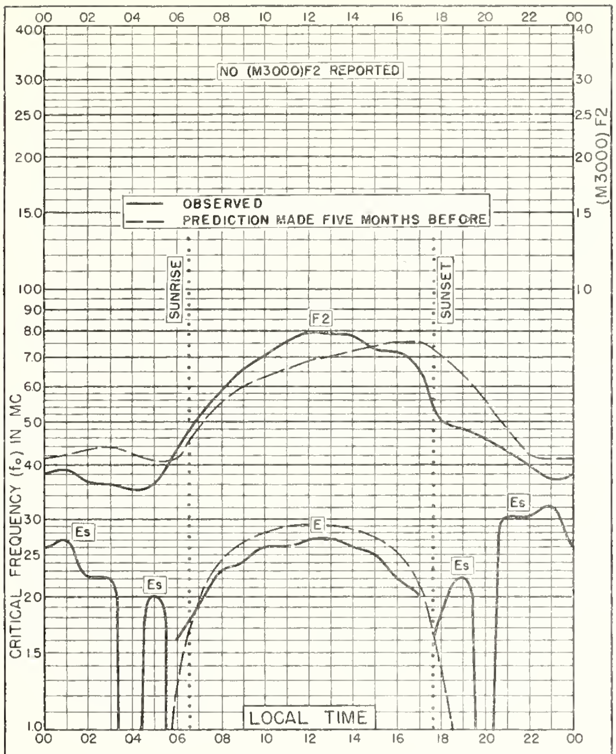


Fig. 33. KIRUNA, SWEDEN
67.8°N, 20.5°E MARCH 1950

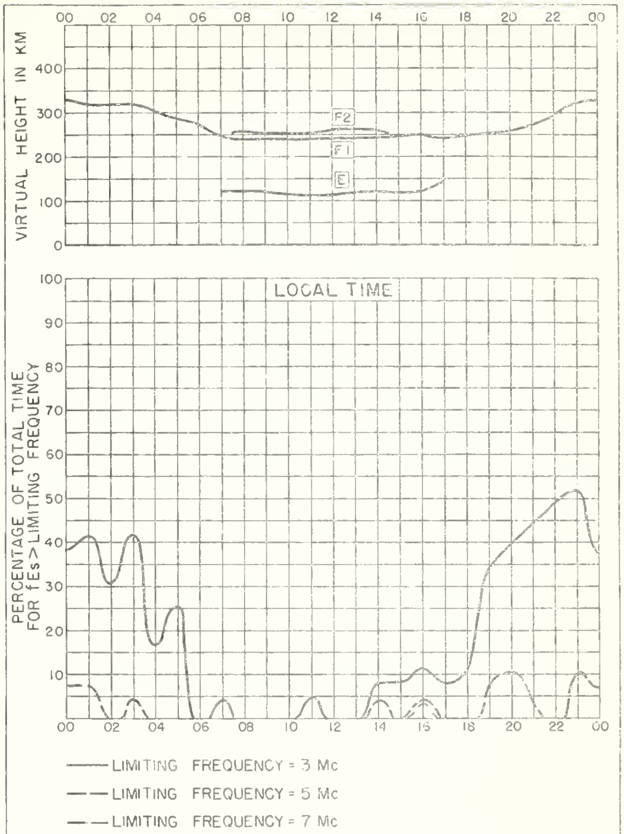


Fig. 34. KIRUNA, SWEDEN MARCH 1950

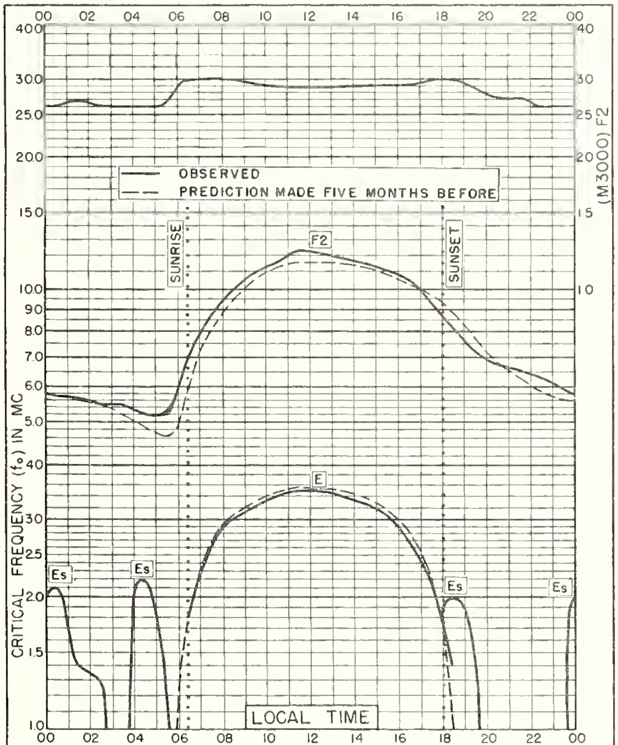


Fig. 35. WAKKANAI, JAPAN
45.4°N, 141.7°E MARCH 1950

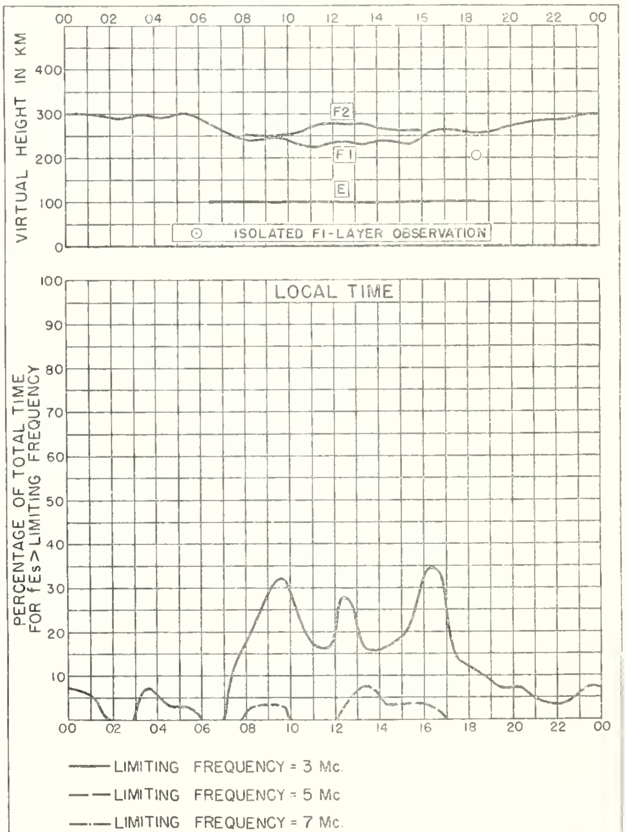


Fig. 36. WAKKANAI, JAPAN MARCH 1950

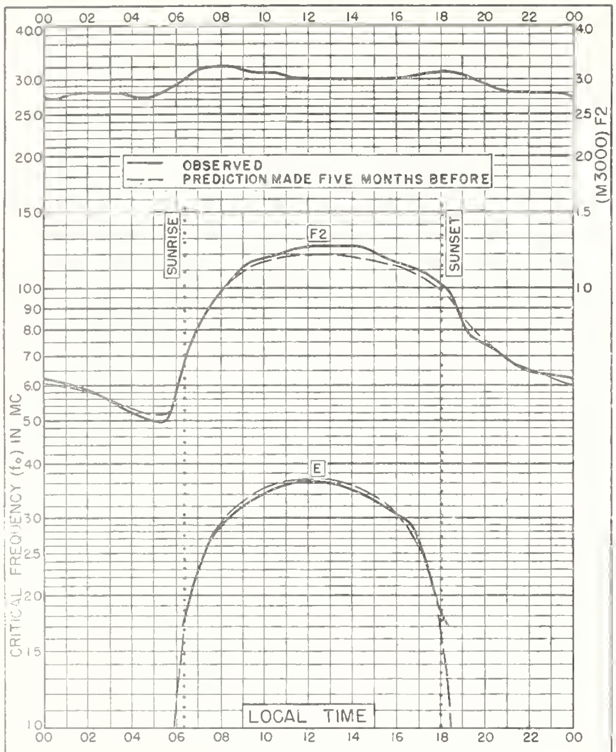


Fig. 37. AKITA, JAPAN
39.7°N, 140.1°E MARCH 1950

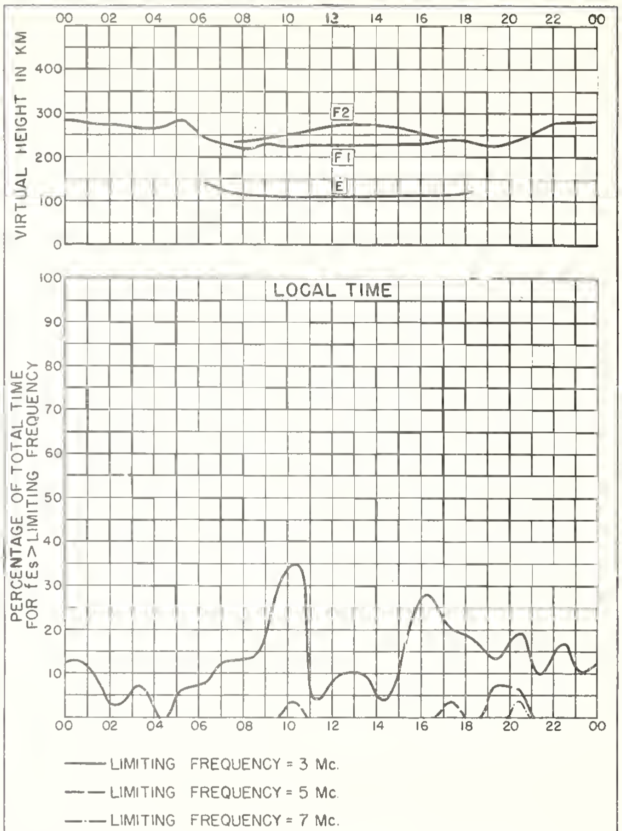


Fig. 38. AKITA, JAPAN MARCH 1950

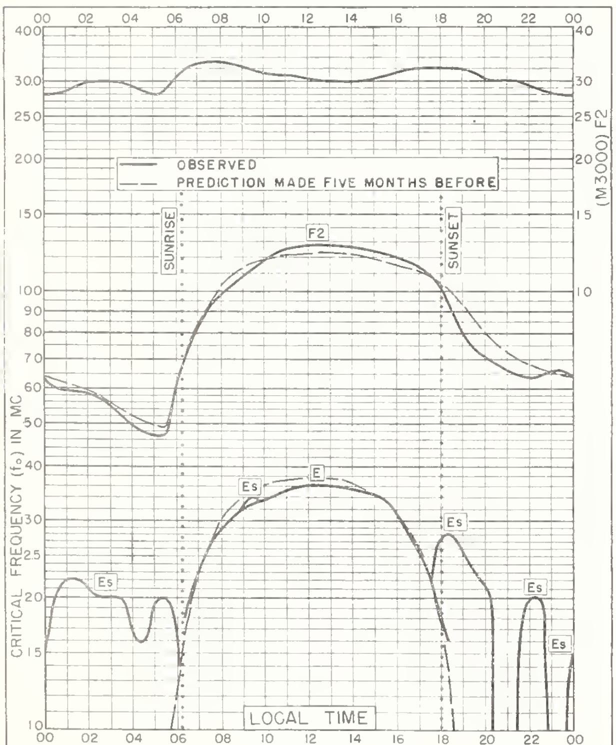


Fig. 39. TOKYO, JAPAN
35.7°N, 139.5°E MARCH 1950

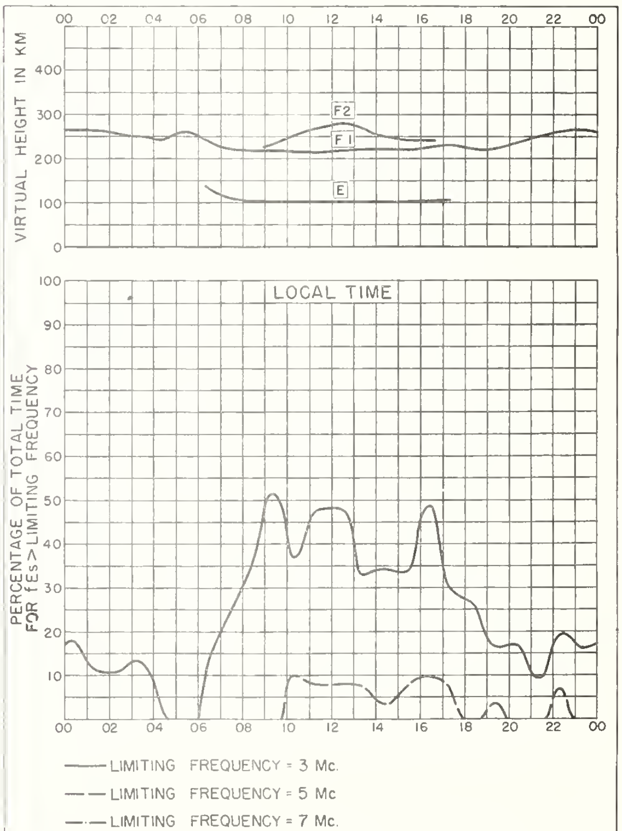


Fig. 40. TOKYO, JAPAN MARCH 1950

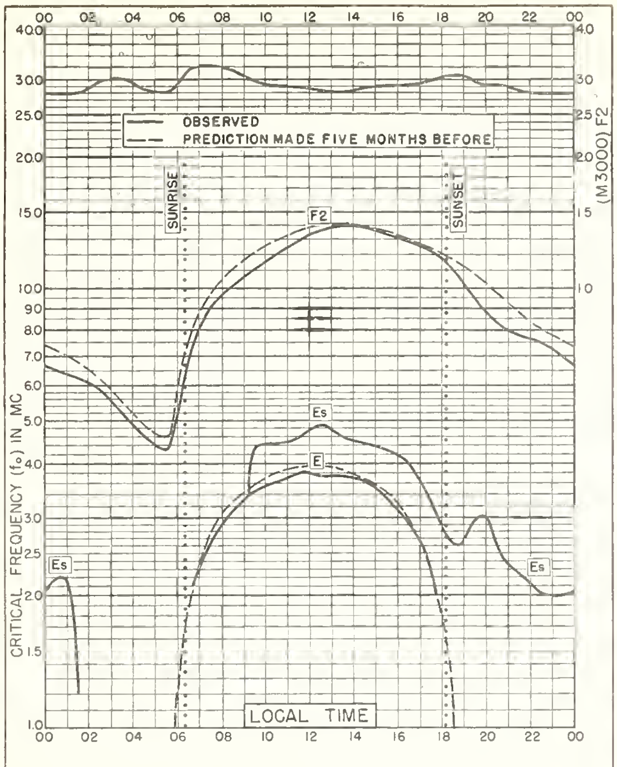


Fig. 41. YAMAGAWA, JAPAN
31.2°N, 130.6°E MARCH 1950

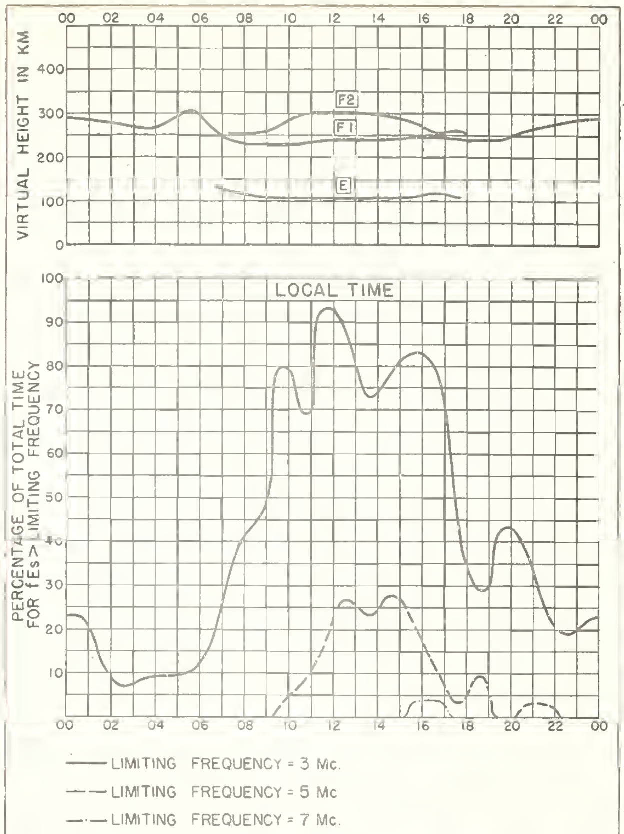


Fig. 42. YAMAGAWA, JAPAN MARCH 1950

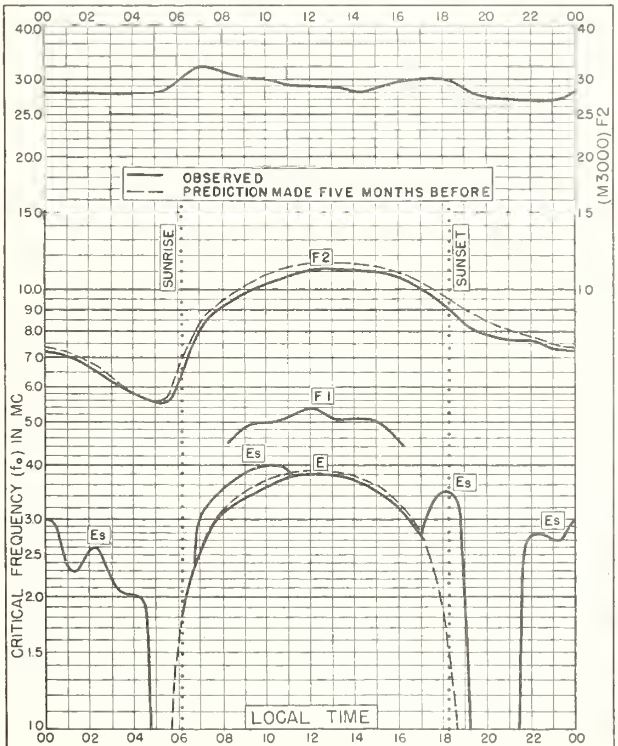


Fig. 43. BRISBANE, AUSTRALIA
27.5°S, 153.0°E MARCH 1950

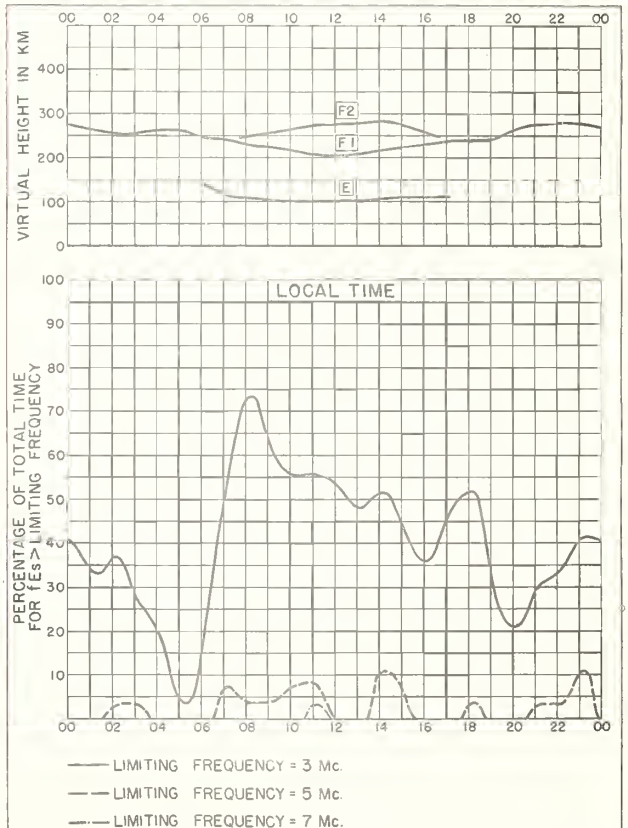


Fig. 44. BRISBANE, AUSTRALIA MARCH 1950

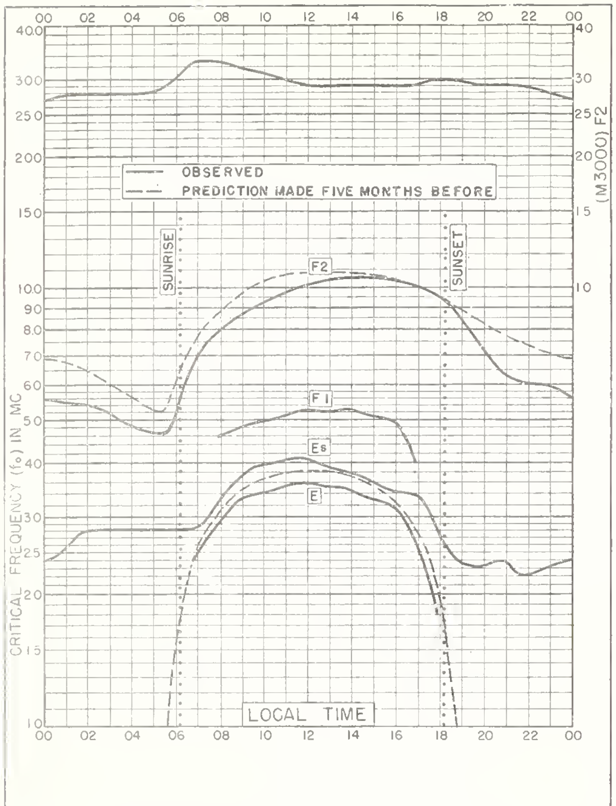


Fig 45. WATHEROO W. AUSTRALIA
30.3°S, 115.9°E MARCH 1950

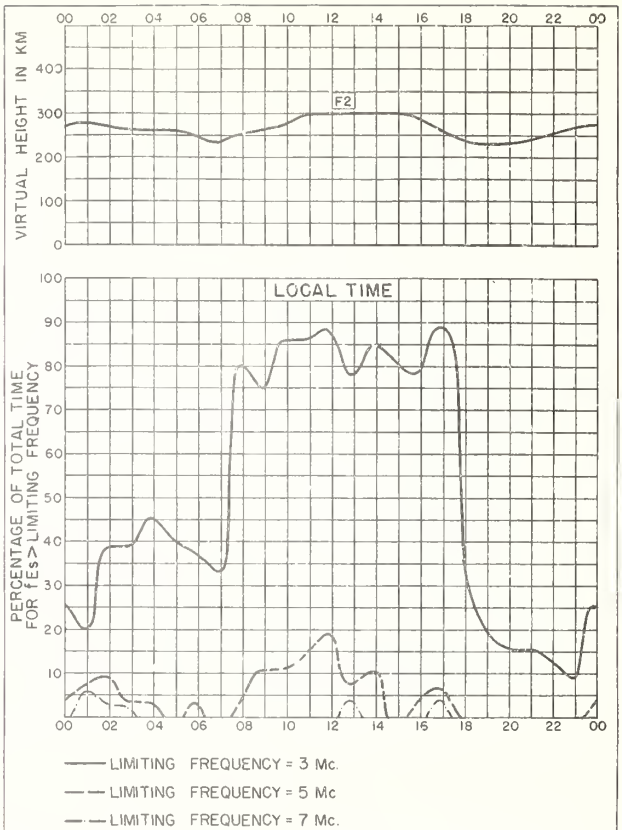


Fig. 46. WATHEROO W. AUSTRALIA MARCH 1950

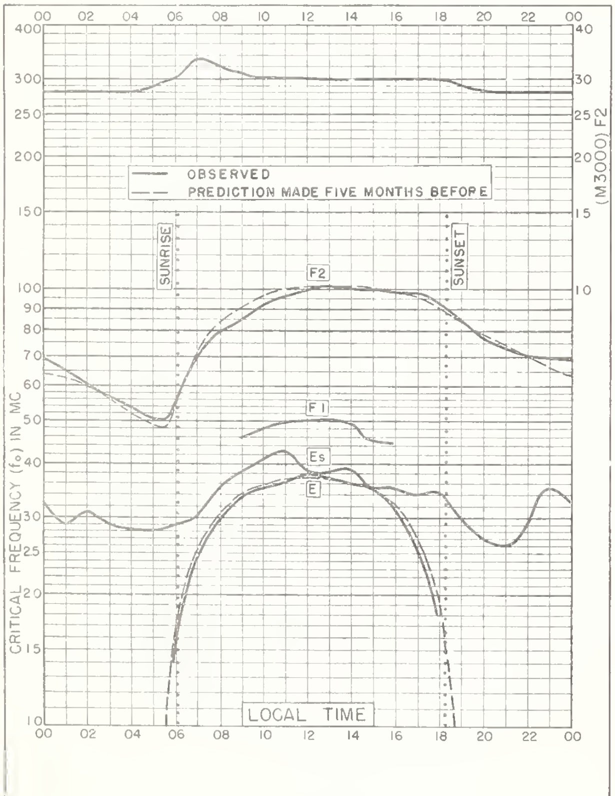


Fig. 47. CANBERRA, AUSTRALIA
35.3°S, 149.0°E MARCH 1950

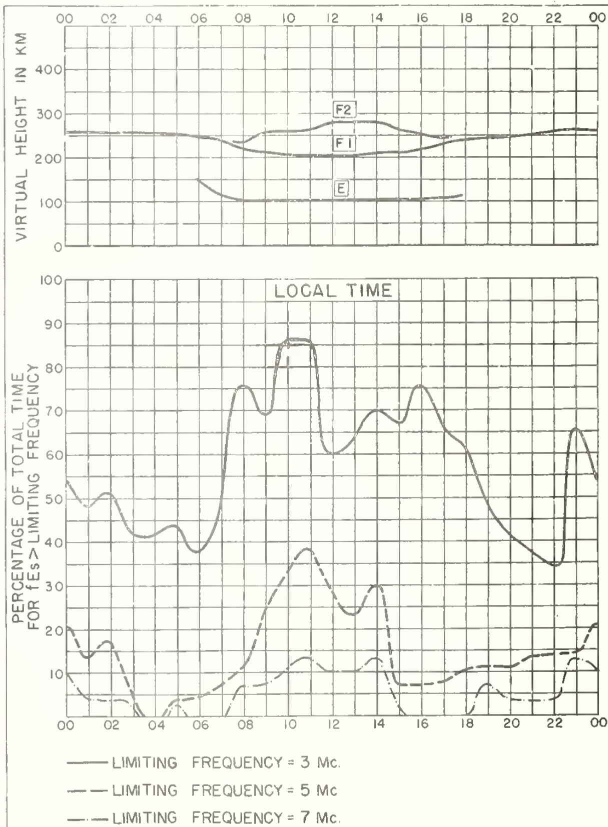


Fig 48. CANBERRA, AUSTRALIA MARCH 1950

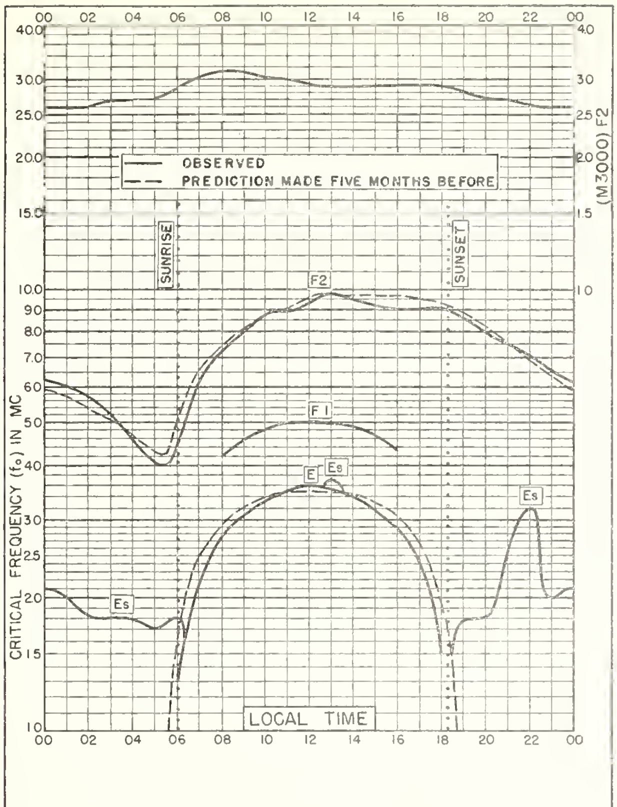


Fig. 49. CHRISTCHURCH, NEW ZEALAND
43.5°S, 172.7°E MARCH 1950

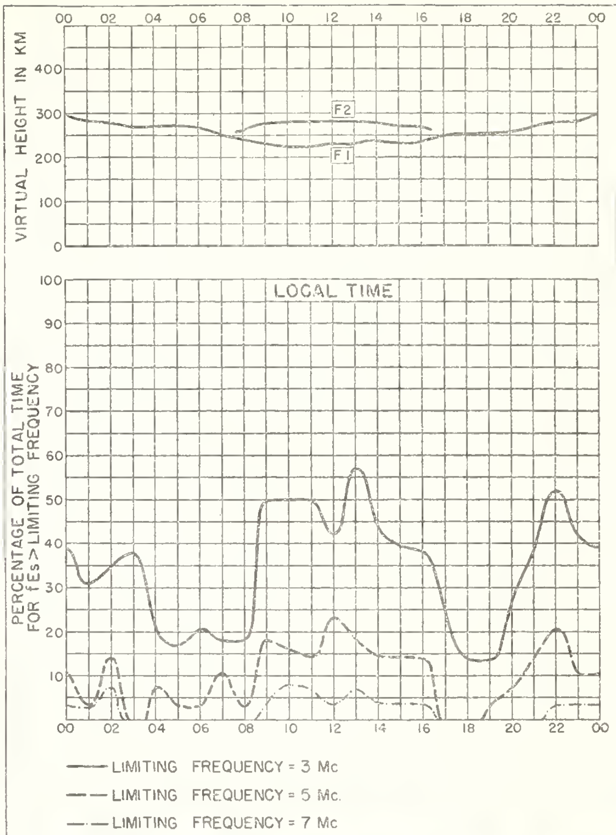


Fig. 50. CHRISTCHURCH, NEW ZEALAND MARCH 1950

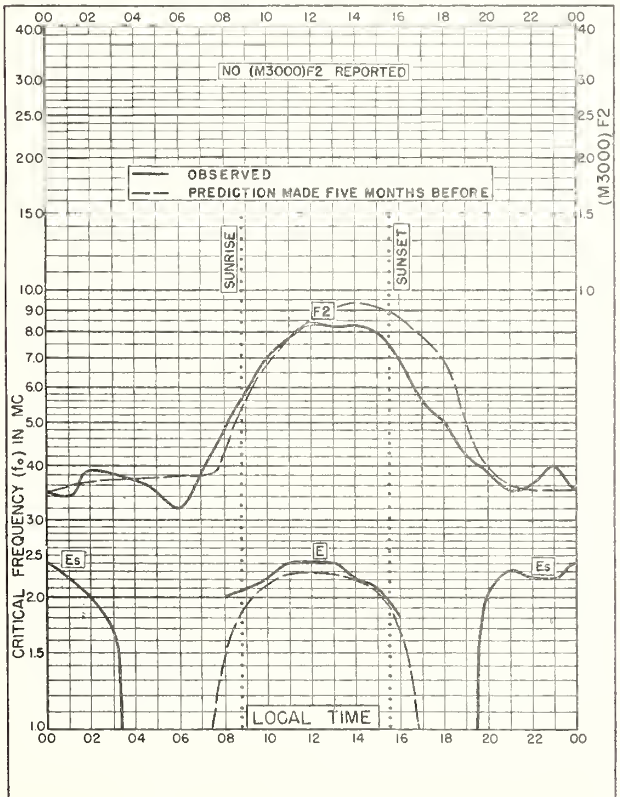


Fig. 51. KIRUNA, SWEDEN
67.8°N, 20.5°E FEBRUARY 1950

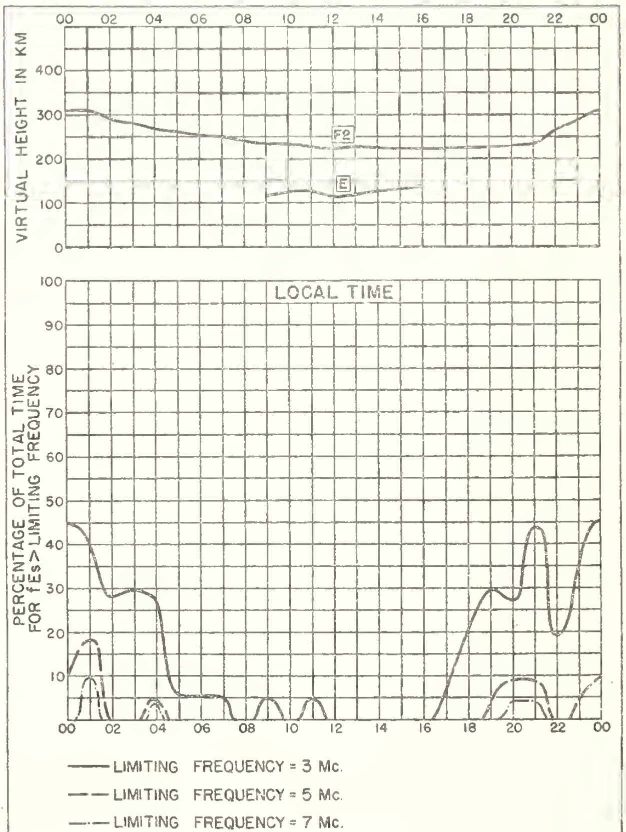


Fig. 52. KIRUNA, SWEDEN FEBRUARY 1950

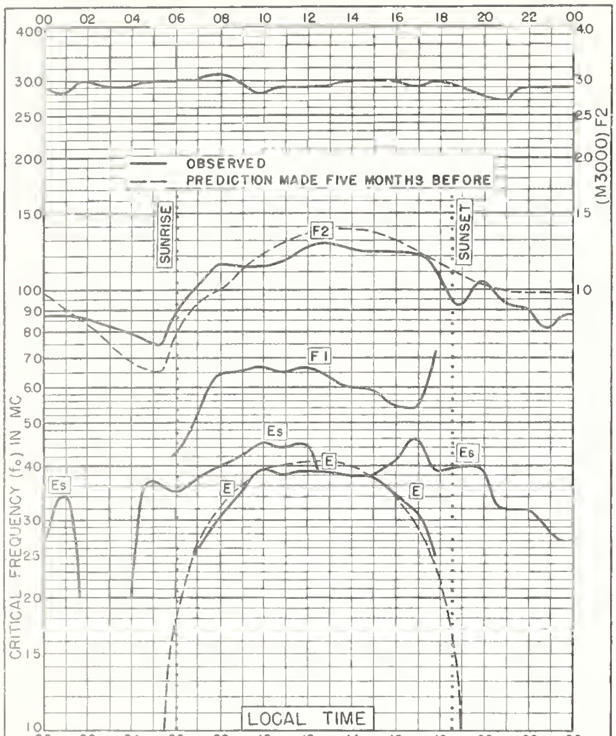


Fig. 53. RAROTONGA I.
21.3°S, 159.8°W FEBRUARY 1950

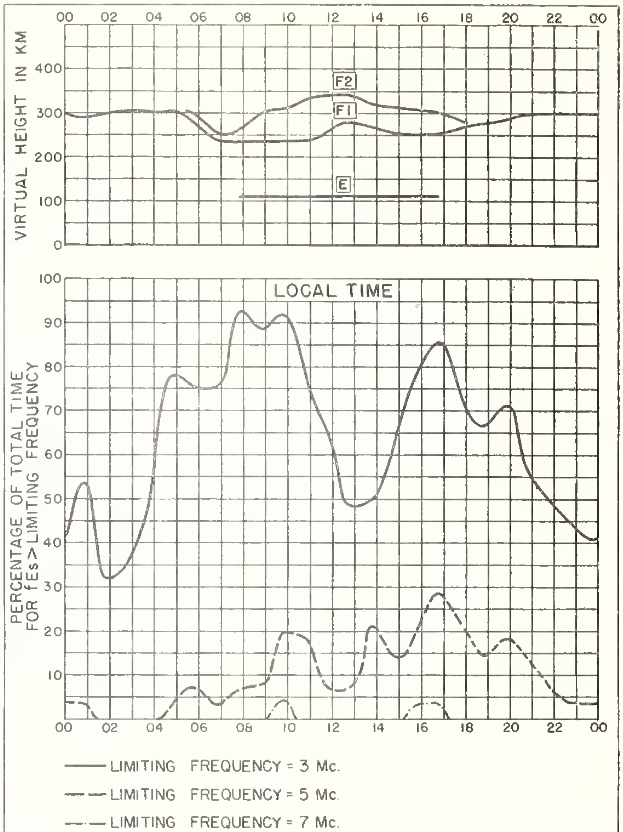


Fig. 54. RAROTONGA I. FEBRUARY 1950

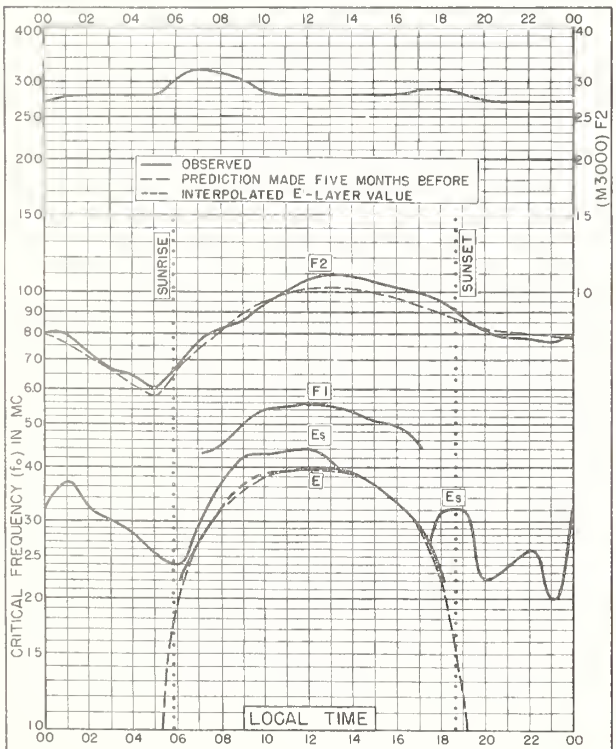


Fig. 55. BRISBANE, AUSTRALIA
27.5°S, 153.0°E FEBRUARY 1950

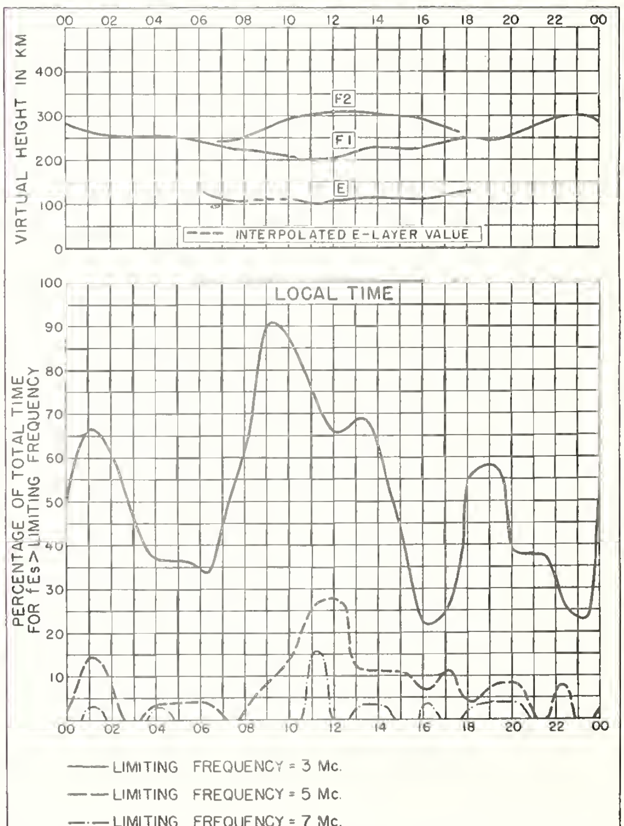


Fig. 56. BRISBANE, AUSTRALIA FEBRUARY 1950

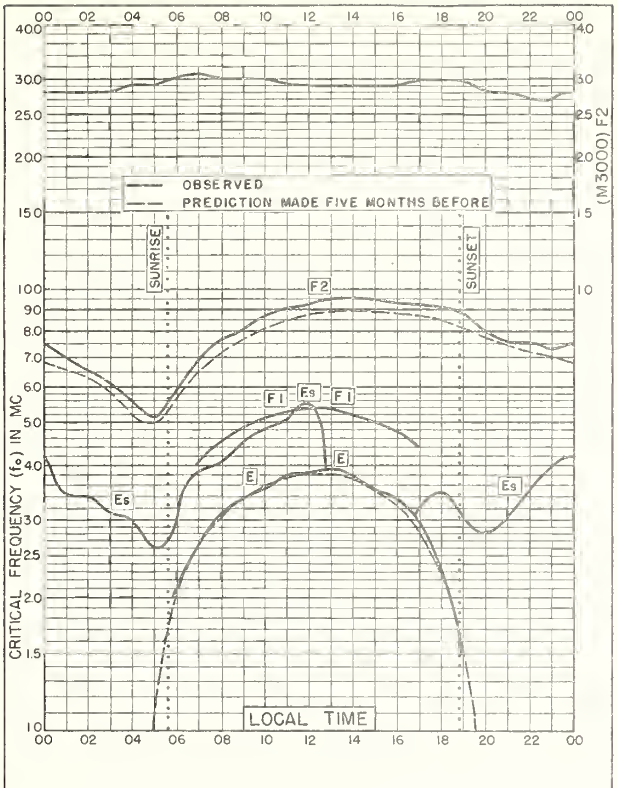


Fig. 57. CANBERRA, AUSTRALIA
35.3°S, 149.0°E FEBRUARY 1950

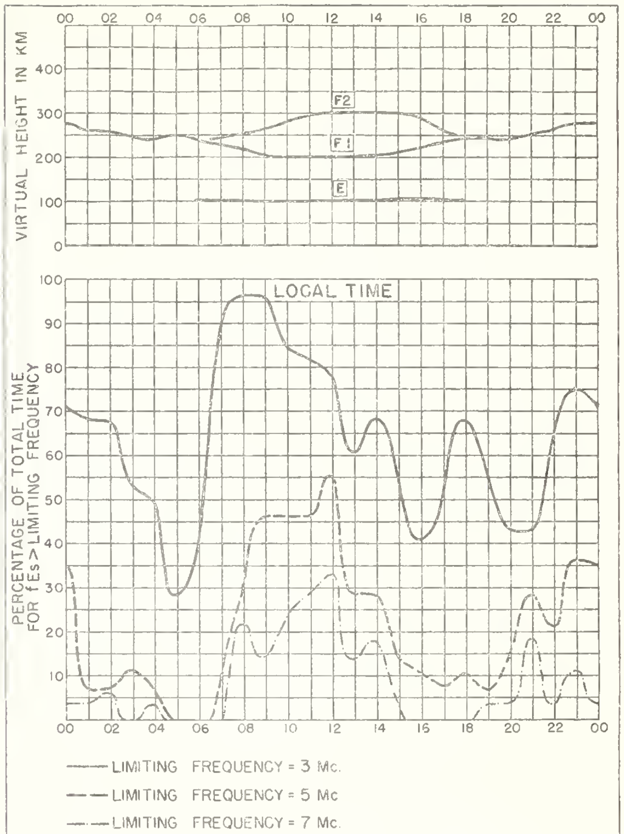


Fig. 58. CANBERRA, AUSTRALIA FEBRUARY 1950

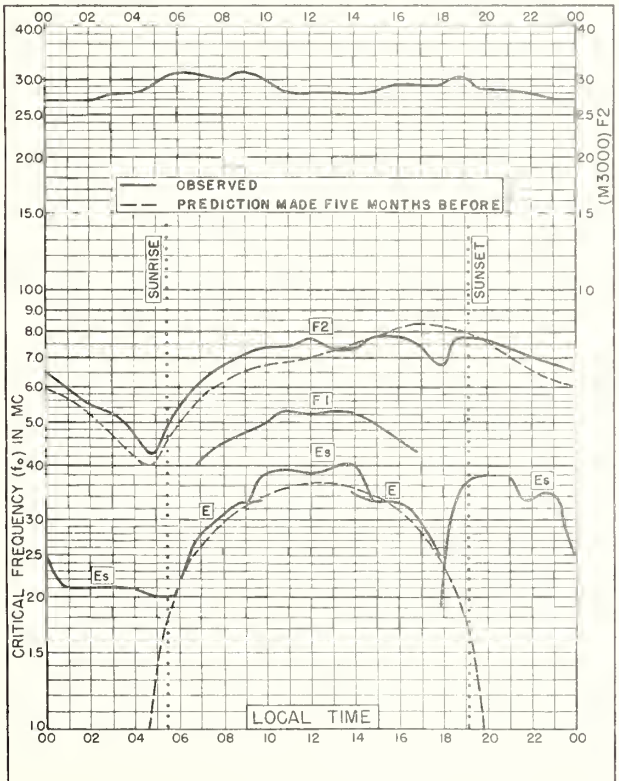


Fig. 59. HOBART, TASMANIA
42.8°S, 147.4°E FEBRUARY 1950

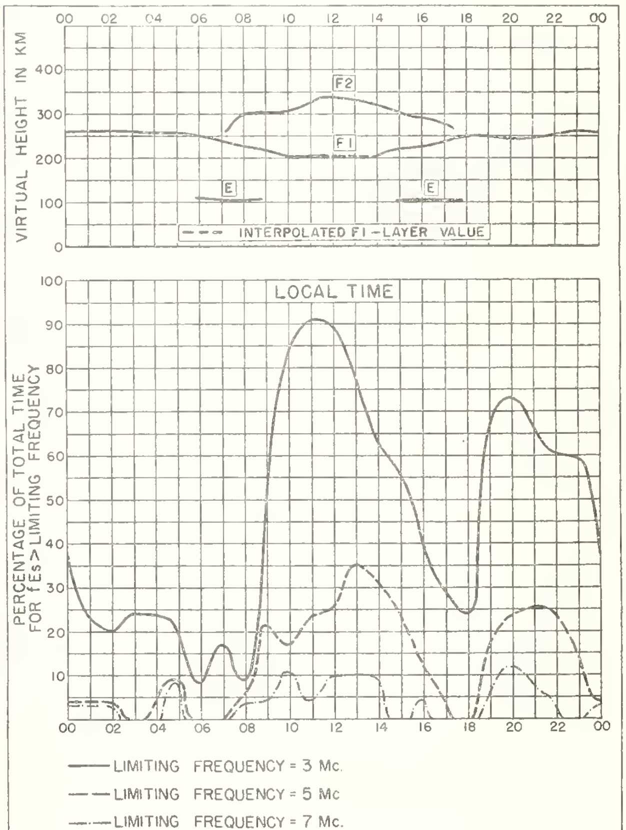


Fig. 60. HOBART, TASMANIA FEBRUARY 1950

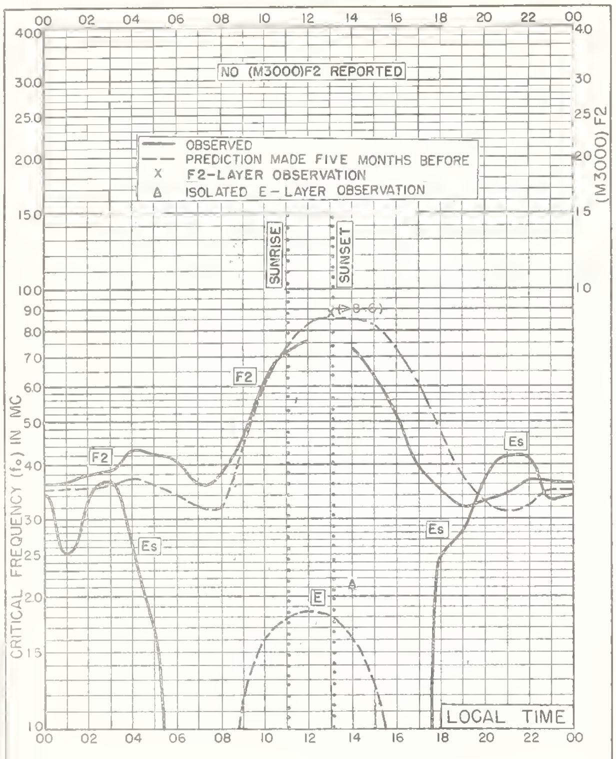
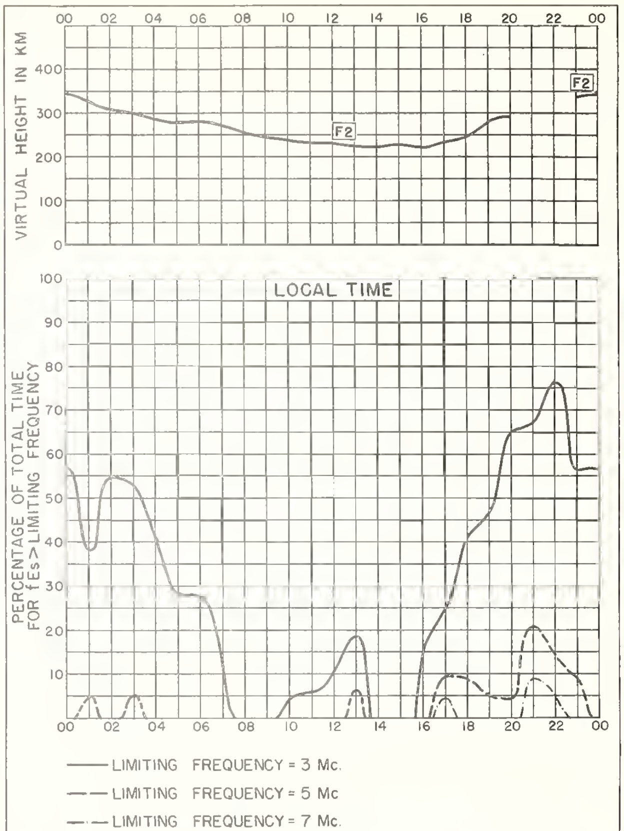


Fig. 61. KIRUNA, SWEDEN
67.8°N, 20.5°E JANUARY 1950



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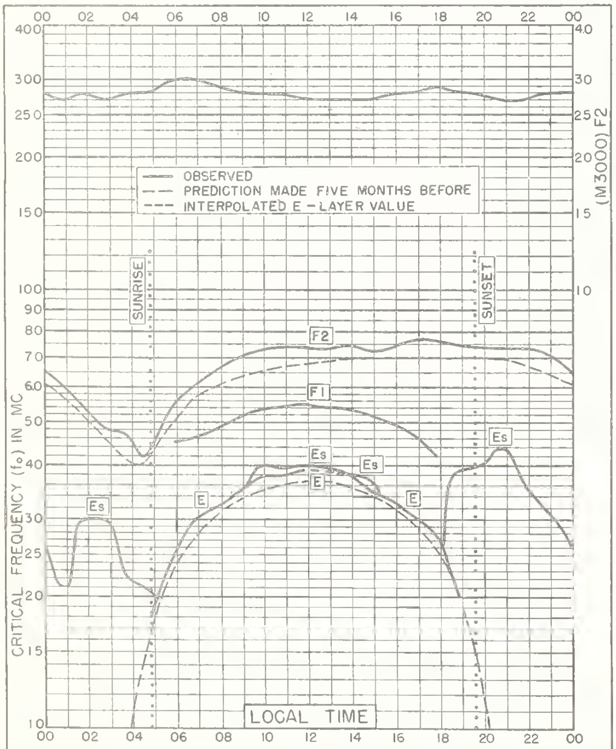

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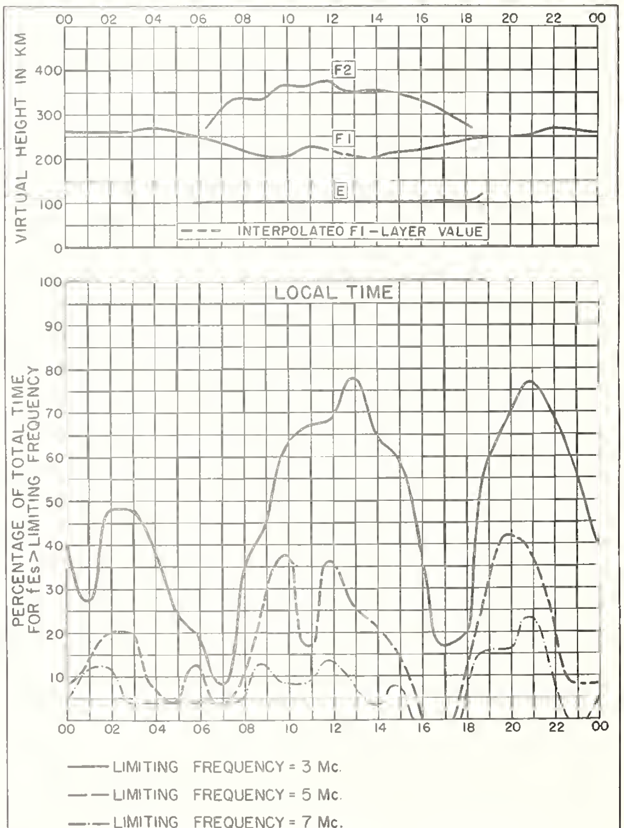

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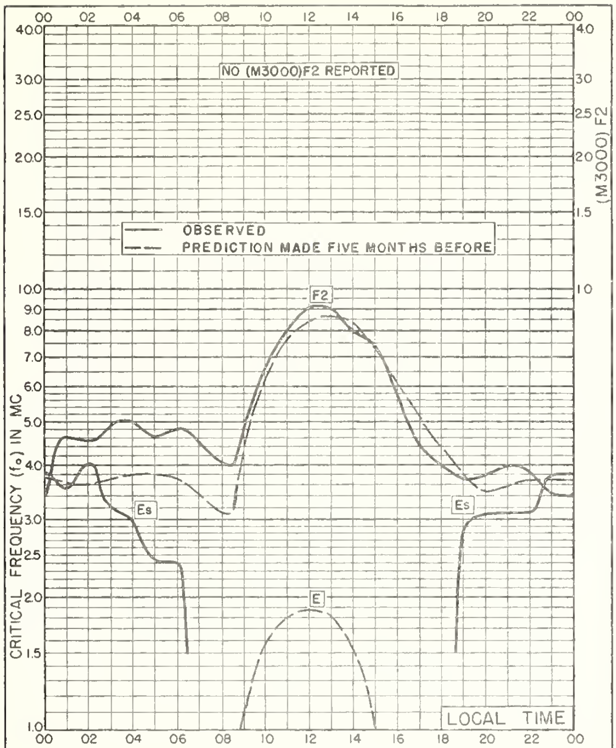

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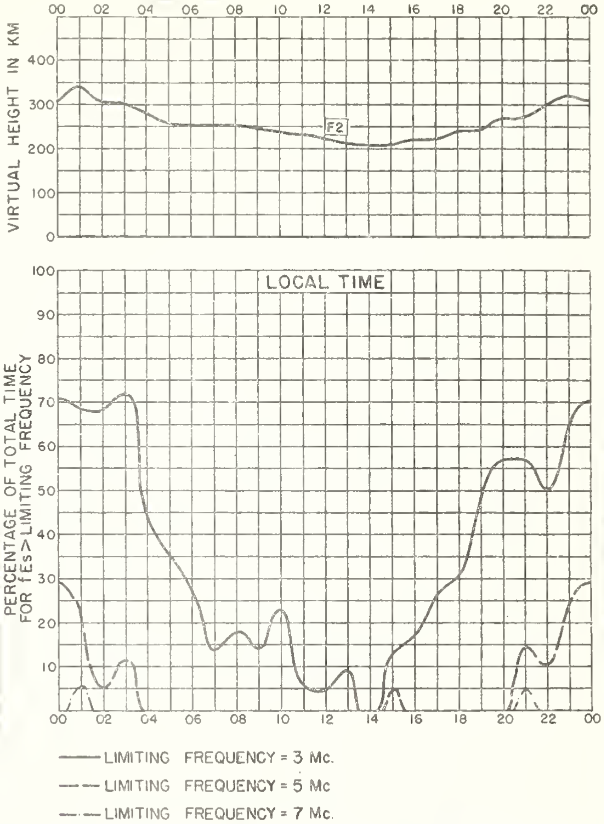

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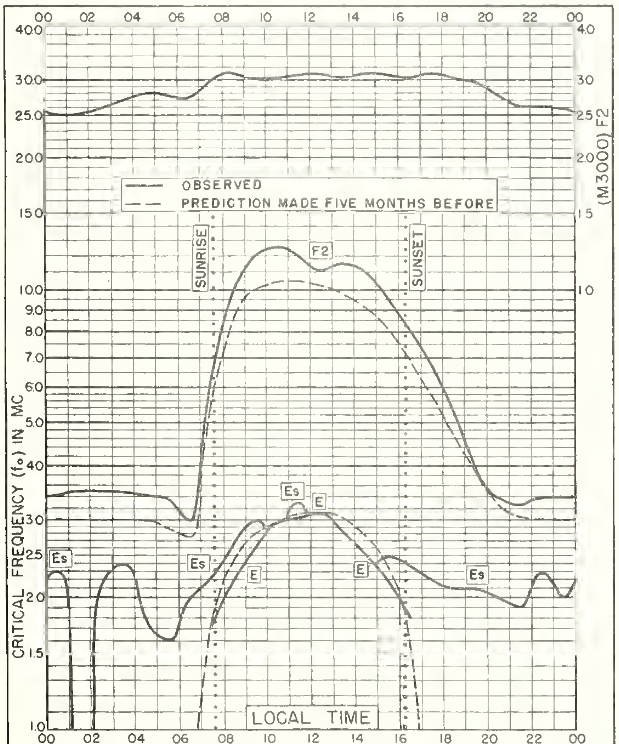

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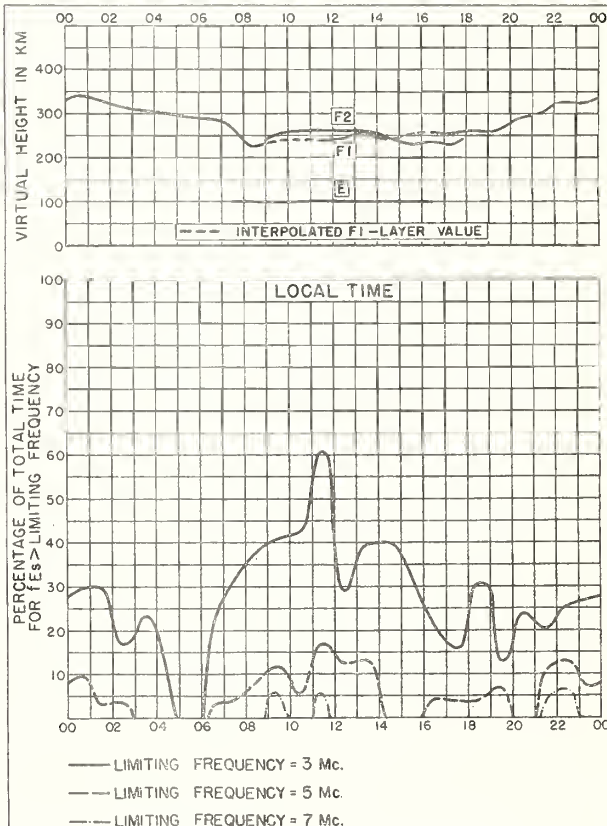

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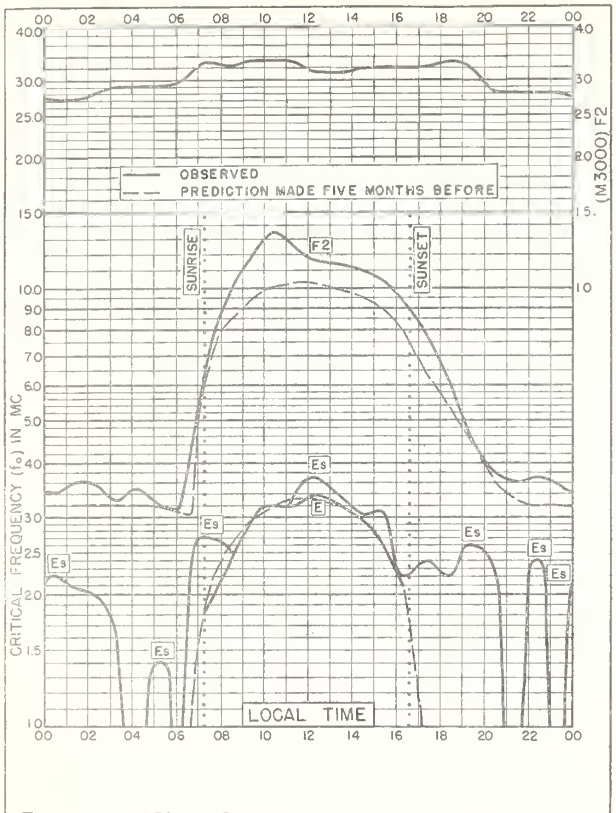

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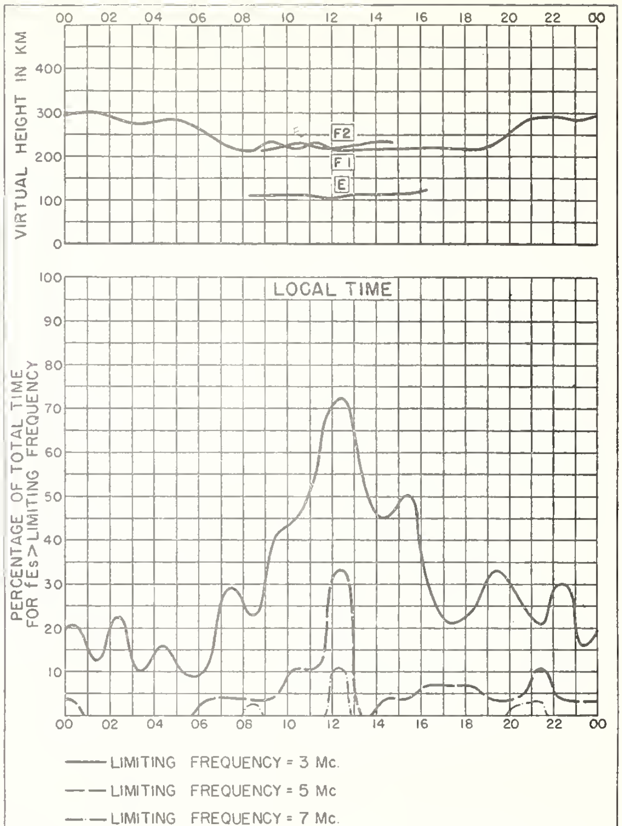

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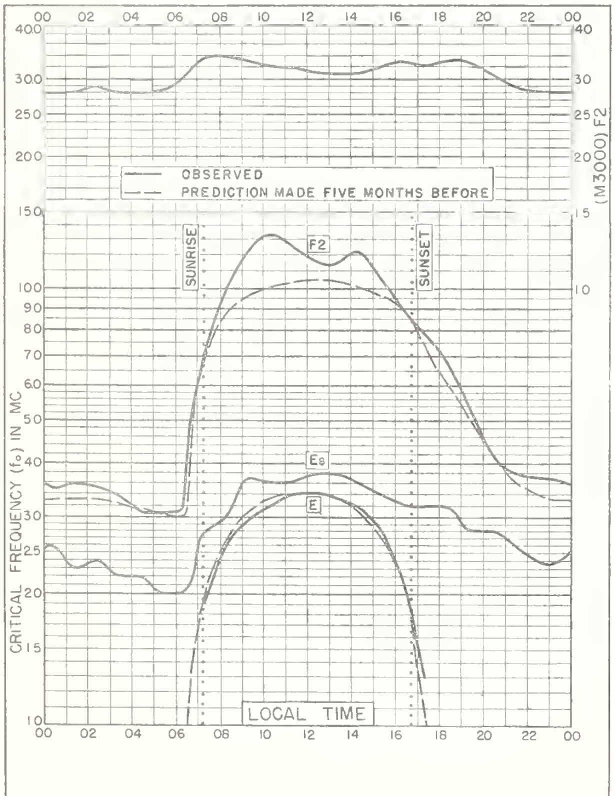

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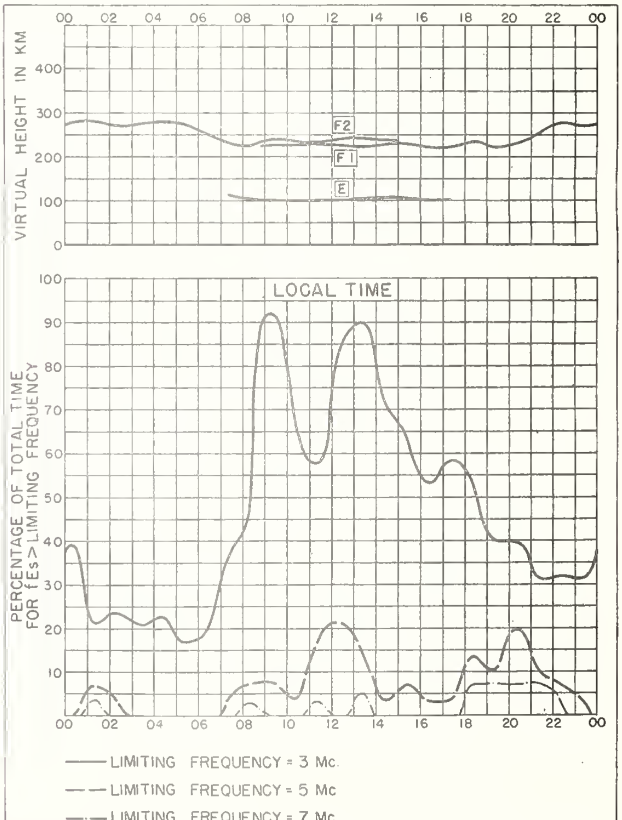

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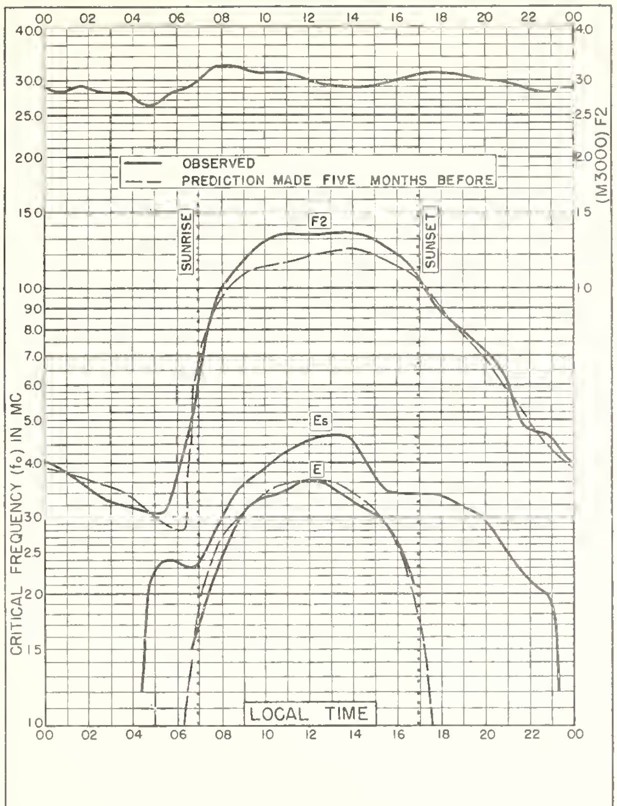

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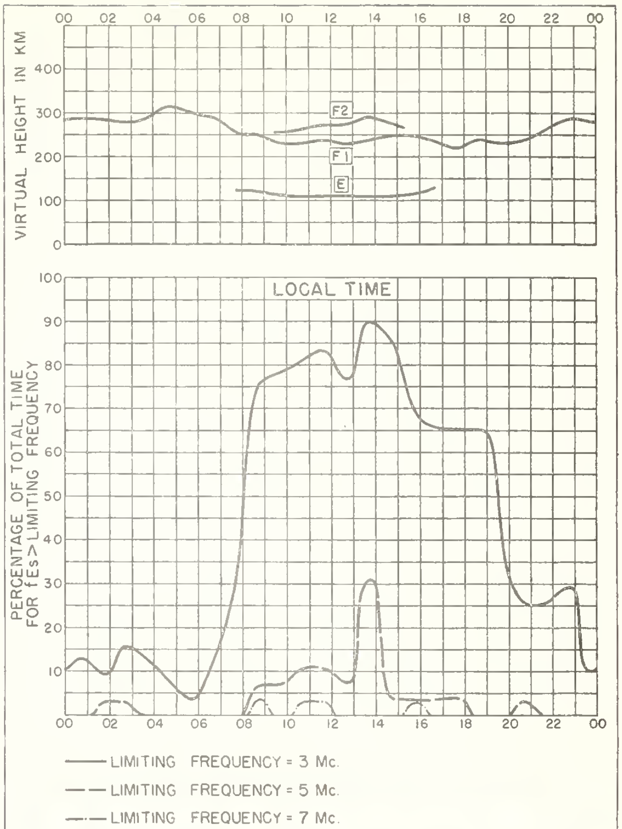

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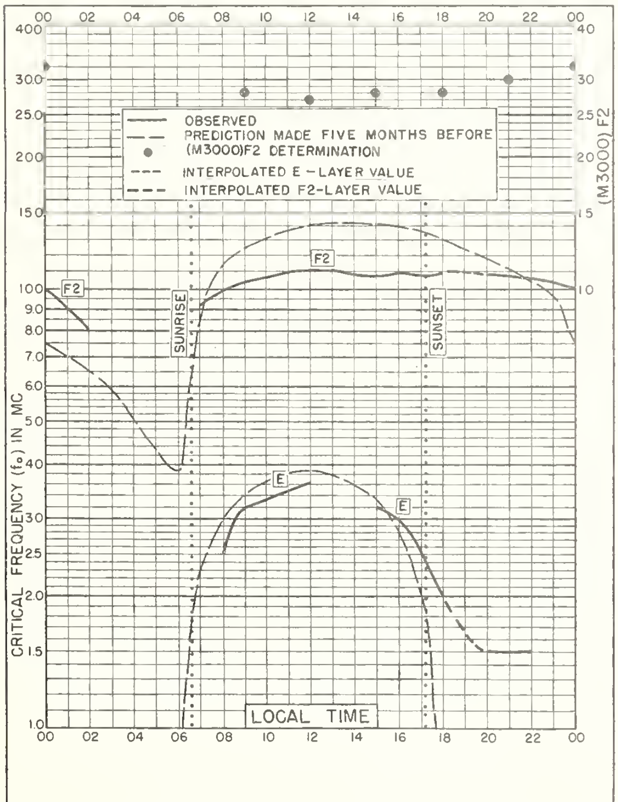

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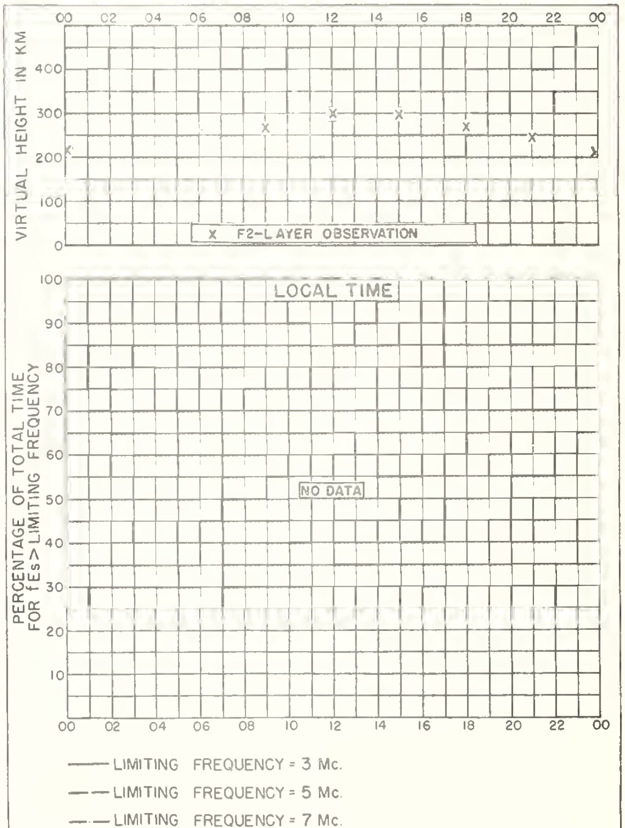

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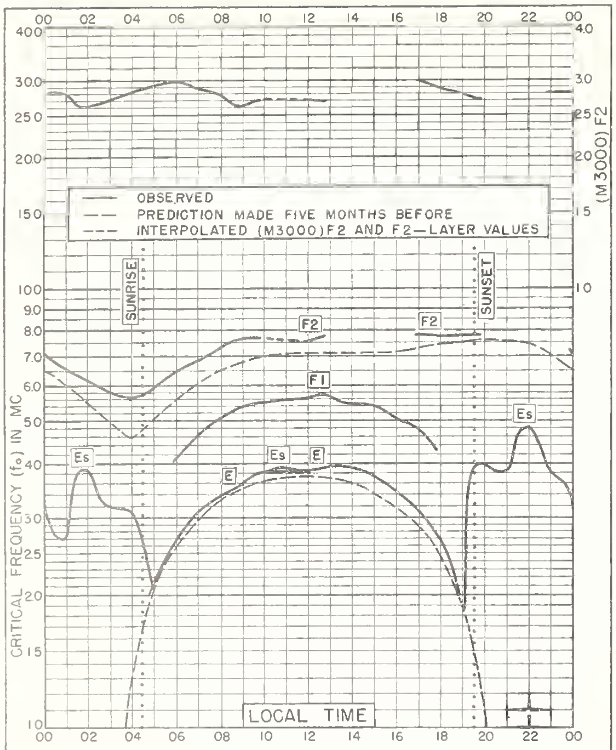

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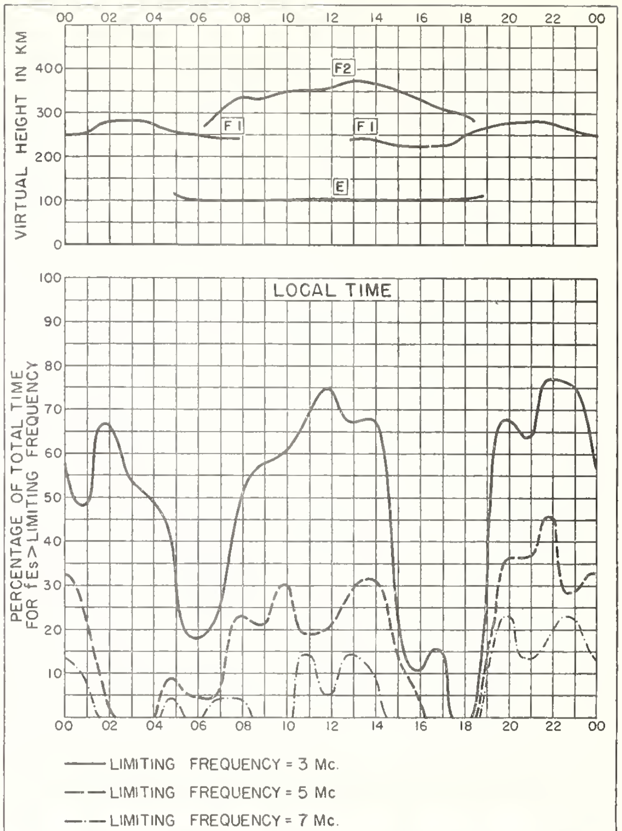

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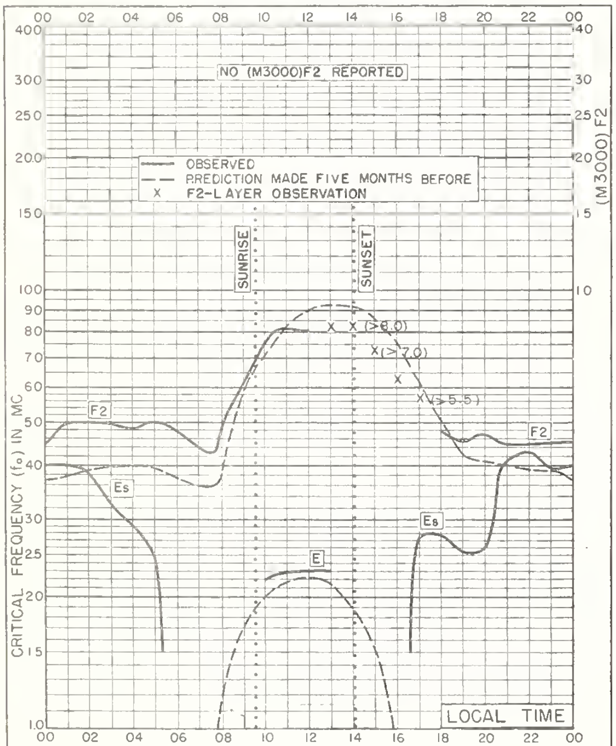

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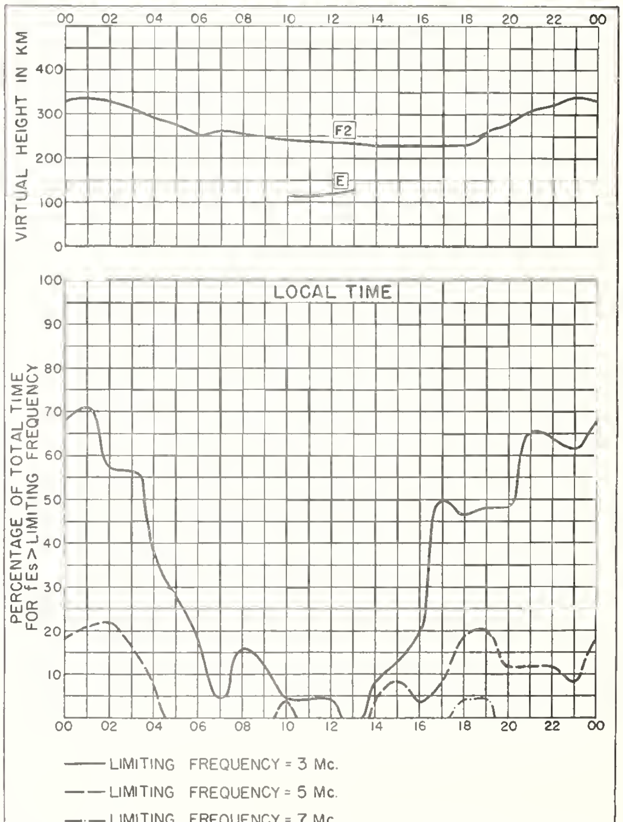

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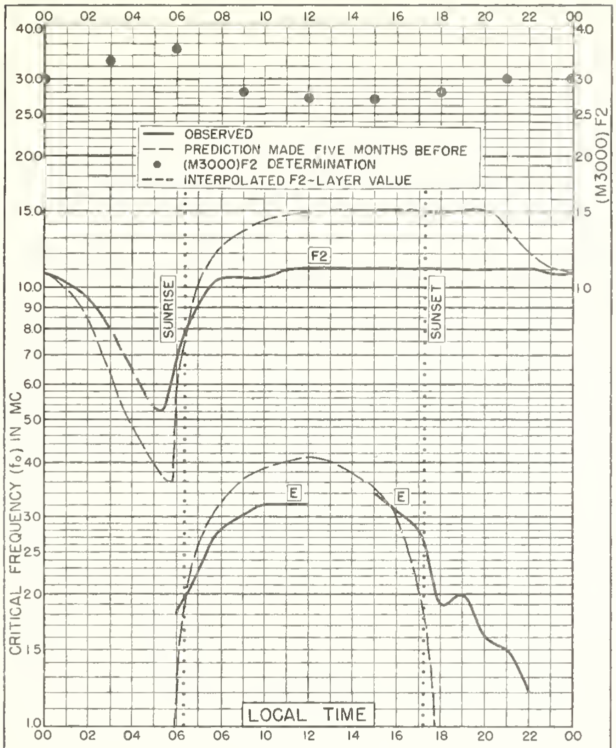

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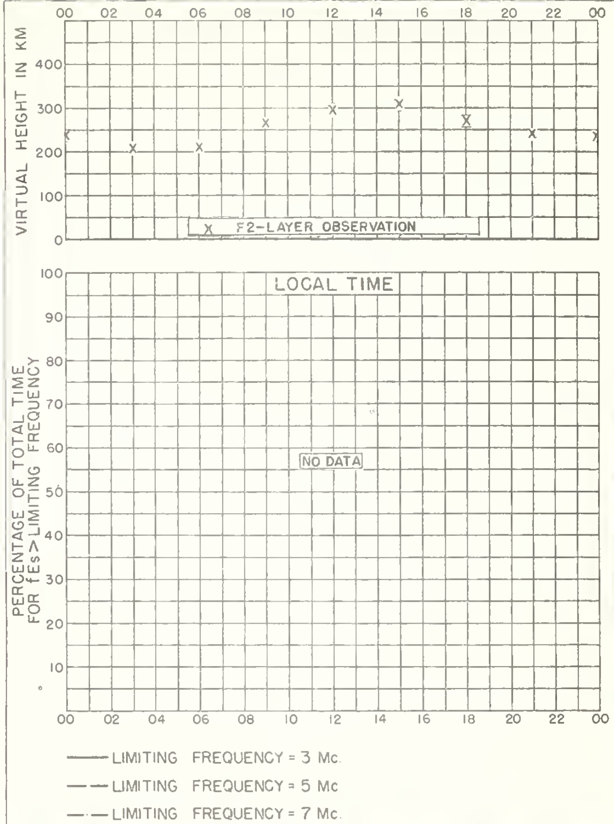

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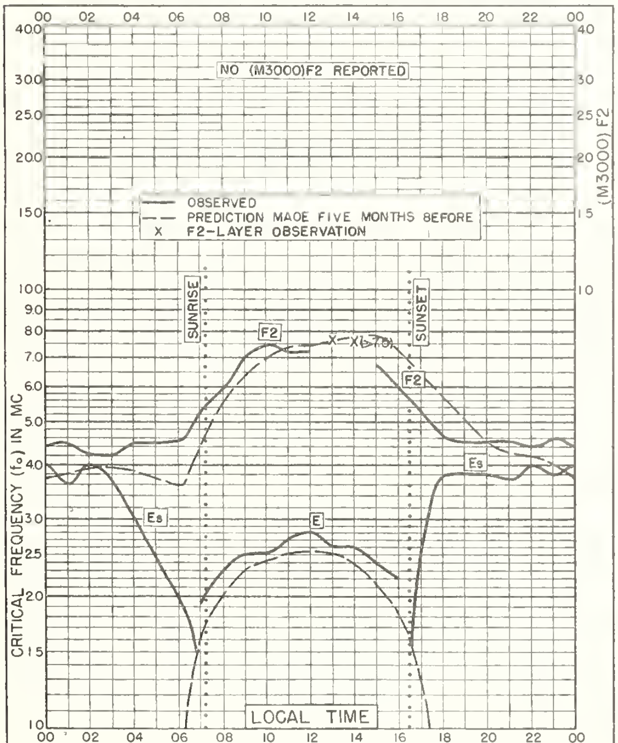

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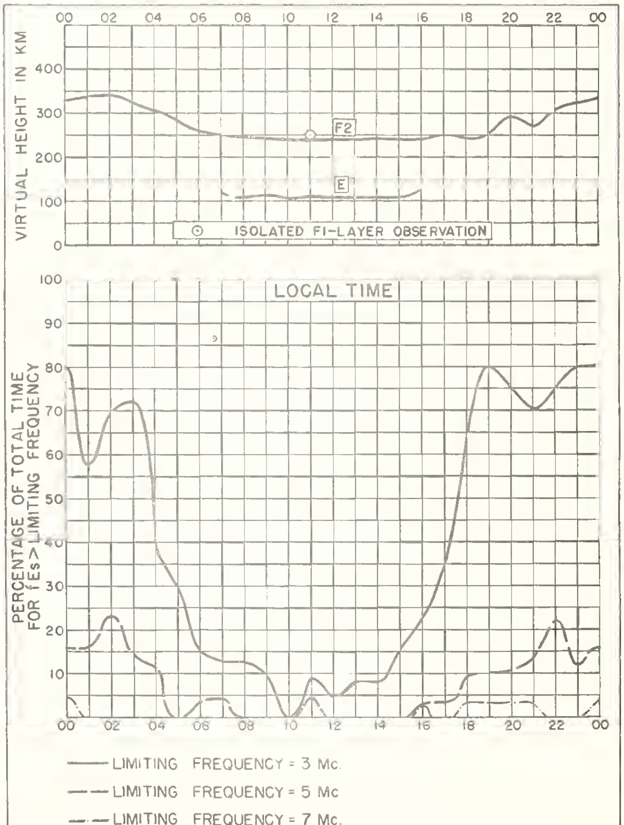

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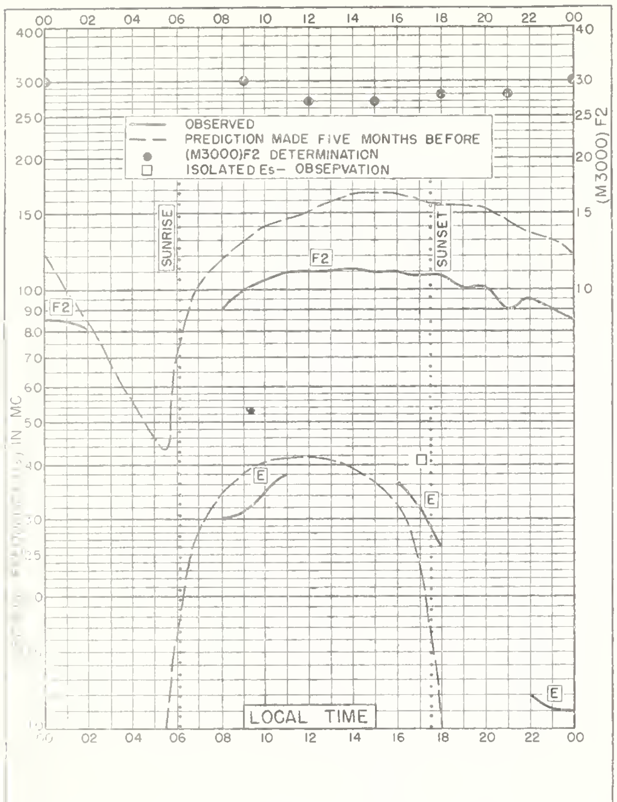

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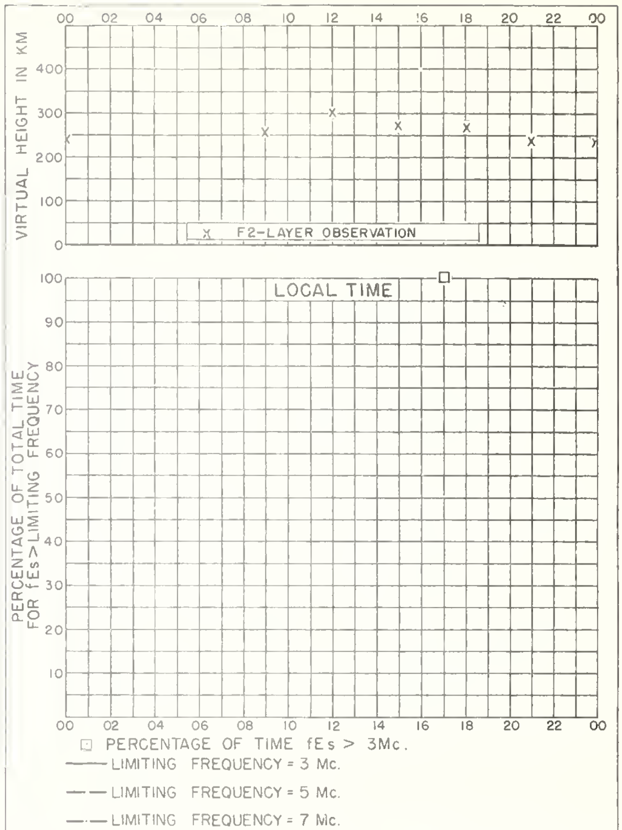

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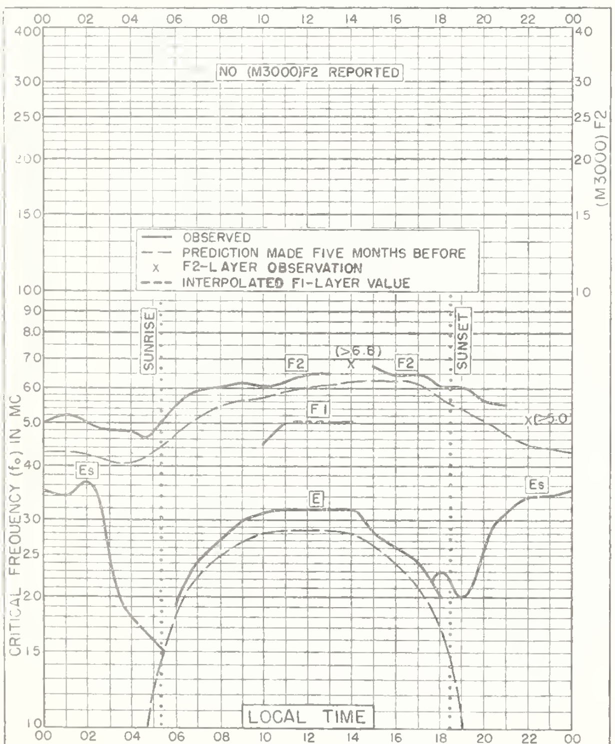

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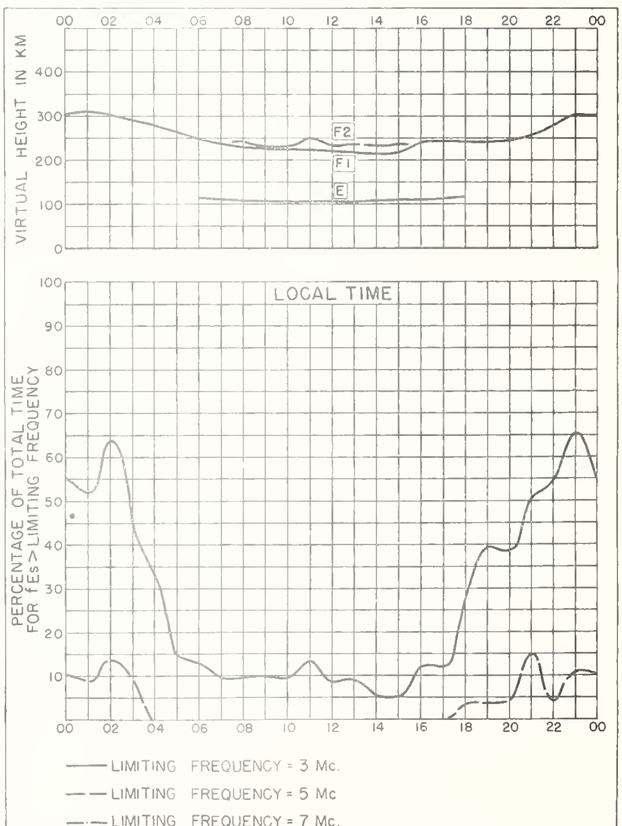

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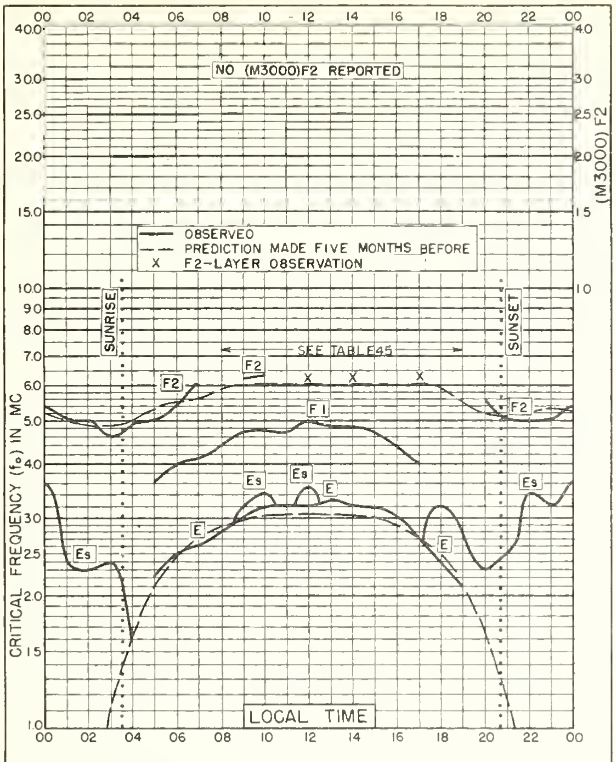

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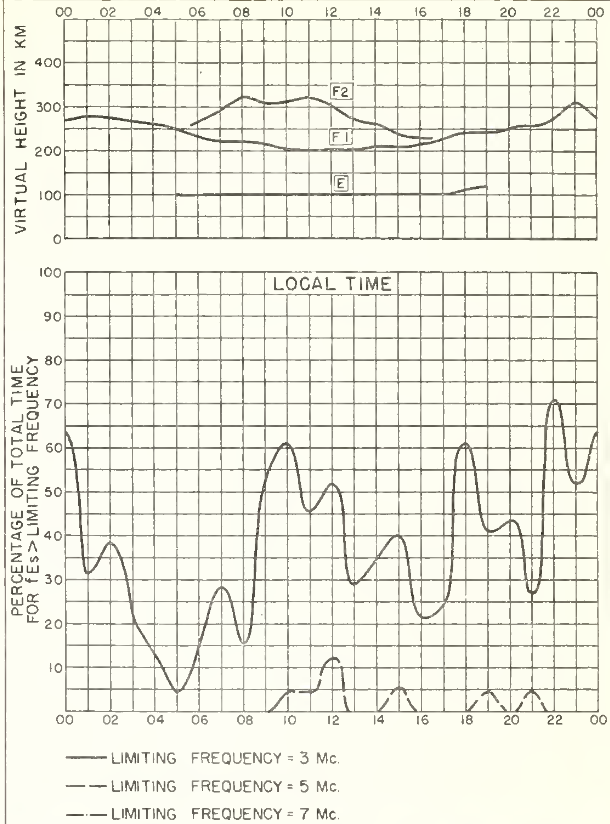

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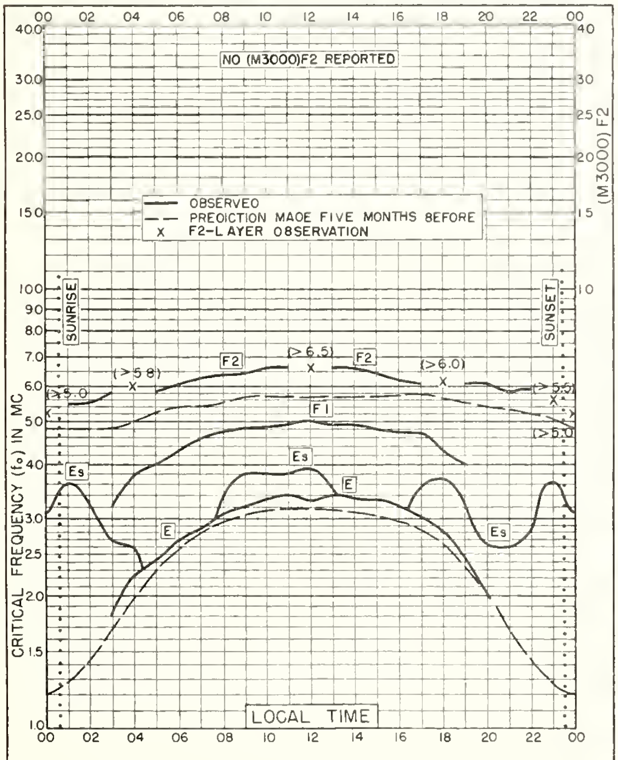

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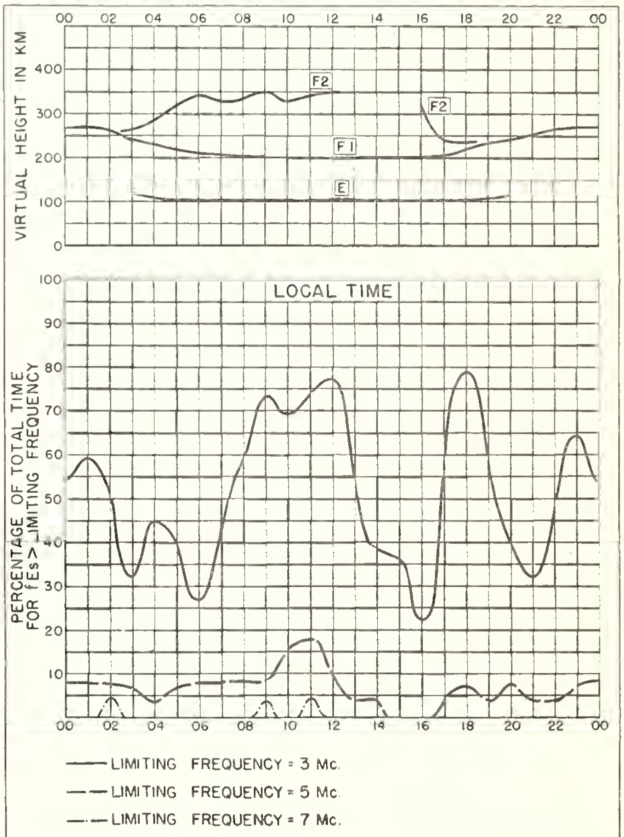

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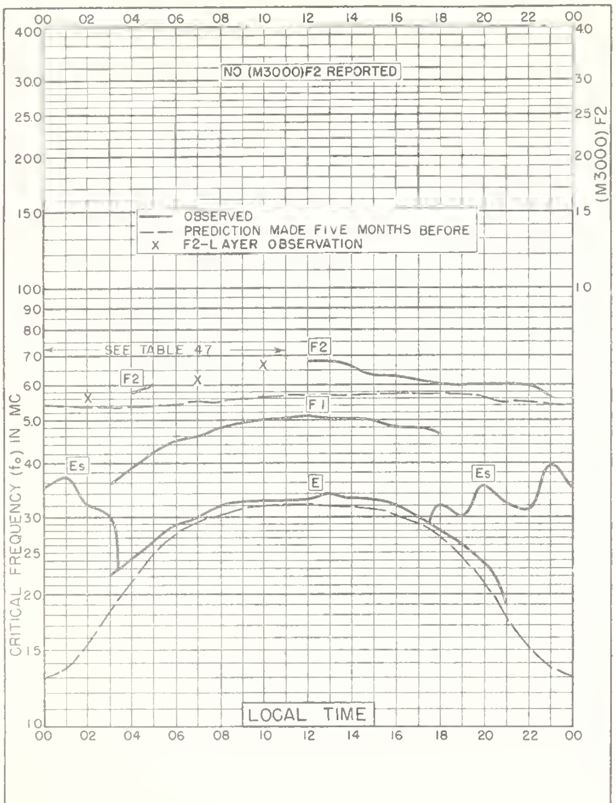

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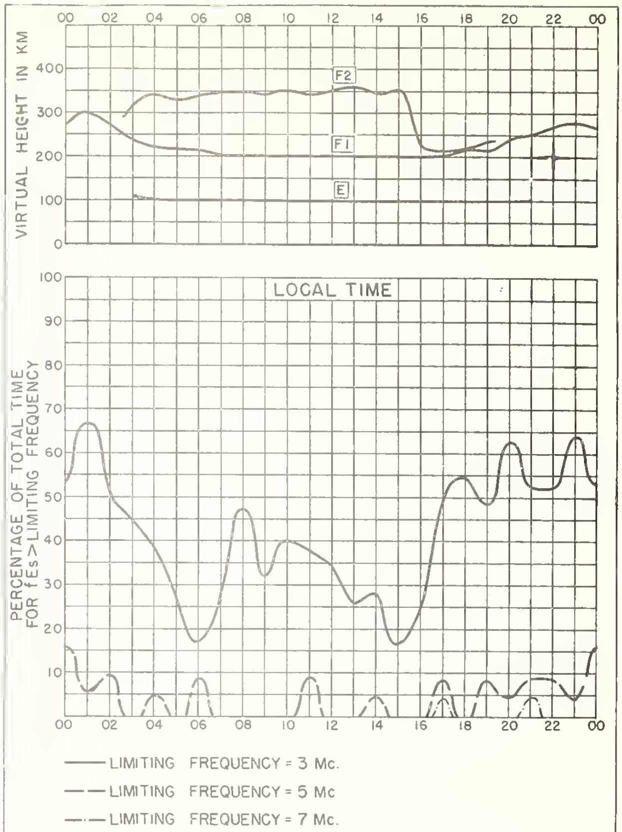

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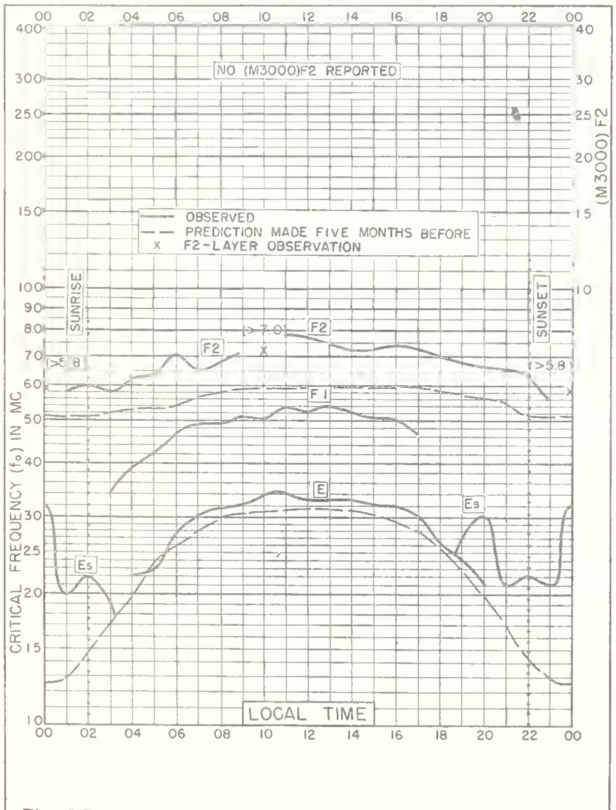

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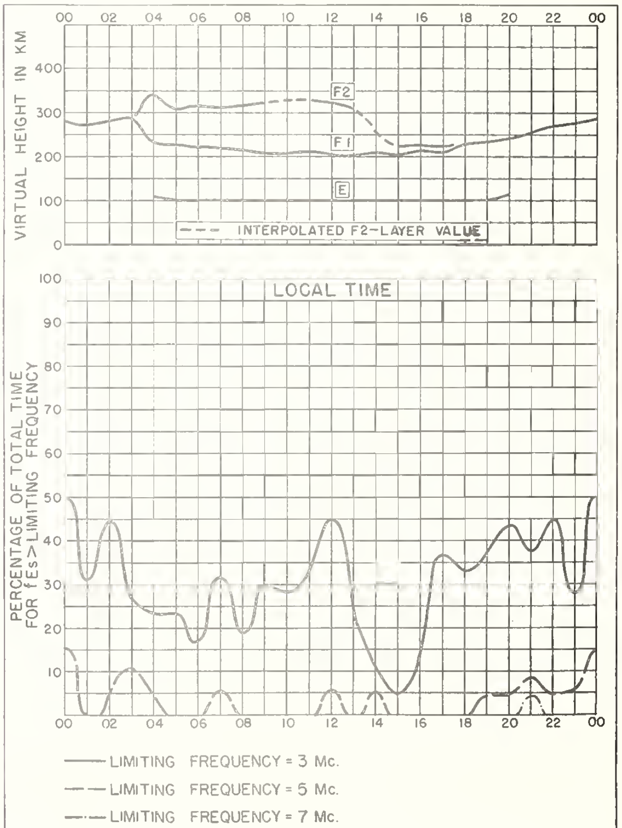

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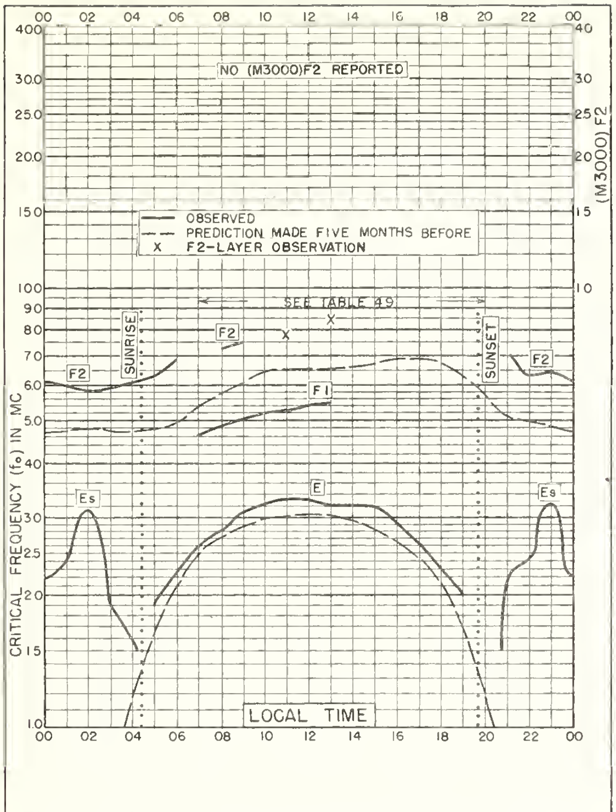

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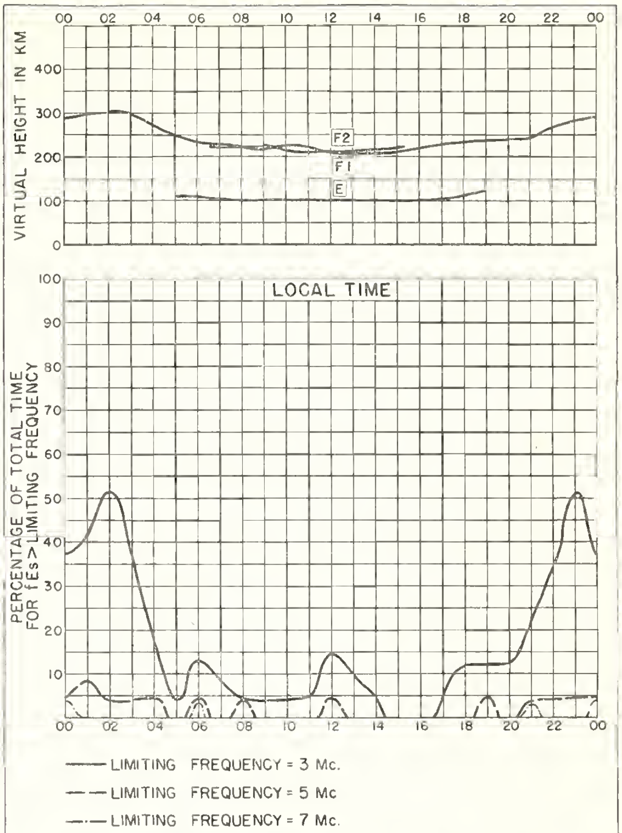

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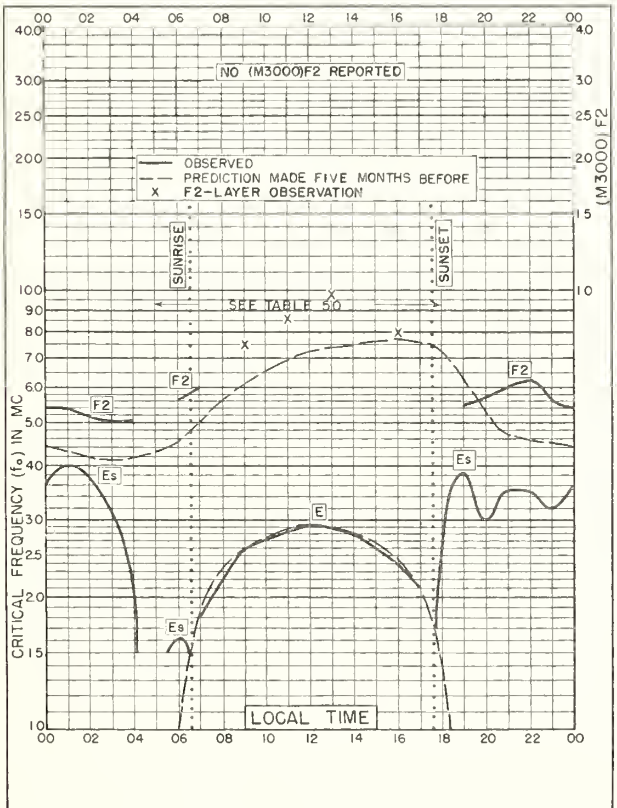

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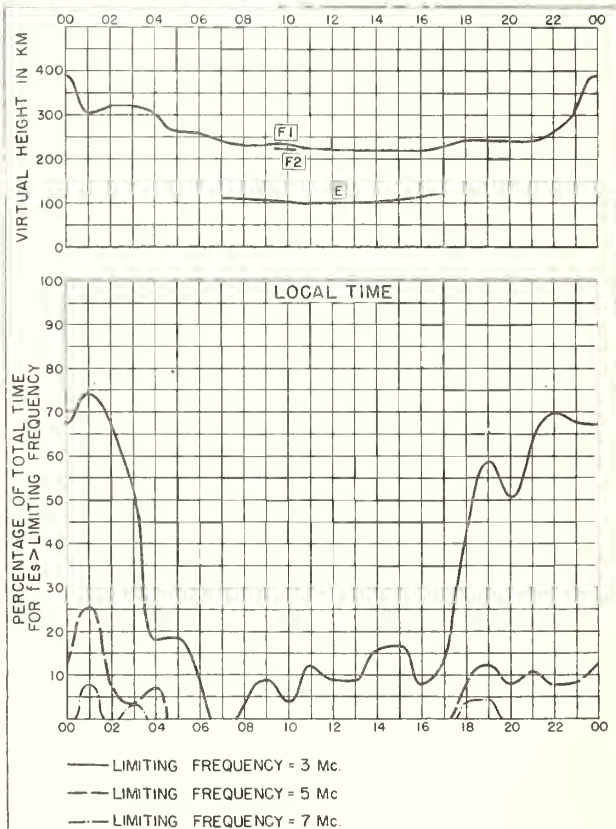

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CRPL and IRPL Reports

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Daily:

Radio disturbance warnings, every half hour from broadcast station WWV of the National Bureau of Standards.
Telephoned and telegraphed reports of ionospheric, solar, geomagnetic, and radio propagation data.

Weekly:

CRPL–J. Radio Propagation Forecast (of days most likely to be disturbed during following month).

Semimonthly:

CRPL–Ja. Semimonthly Frequency Revision Factors for CRPL Basic Radio Propagation Prediction Reports.

Monthly:

CRPL–D. Basic Radio Propagation Predictions—Three months in advance. (Dept. of the Army, TB 11–499–, monthly supplements to TM 11–499; Dept. of the Navy, DNC–13–1 ( ), monthly supplements to DNC–13–1.)

CRPL–F. Ionospheric Data.

Quarterly:

*IRPL–A. Recommended Frequency Bands for Ships and Aircraft in the Atlantic and Pacific.

*IRPL–H. Frequency Guide for Operating Personnel.

Circulars of the National Bureau of Standards:

NBS Circular 462. Ionospheric Radio Propagation.

NBS Circular 465. Instructions for the Use of Basic Radio Propagation Predictions.

Reports issued in past:

IRPL–C61. Report of the International Radio Propagation Conference, 17 April to 5 May 1944.

IRPL–G1 through G12. Correlation of D. F. Errors With Ionospheric Conditions.

IRPL–R. Nonscheduled reports:

- R4. Methods Used by IRPL for the Prediction of Ionosphere Characteristics and Maximum Usable Frequencies
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IRPL–T. Reports on tropospheric propagation:

- T1. Radar operation and weather. (Superseded by JANP 101.)
- T2. Radar coverage and weather. (Superseded by JANP 102.)

CRPL–T3. Tropospheric Propagation and Radio-Meteorology. (Reissue of Columbia Wave Propagation Group WPG–5.)

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